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BOOK V. / / / FIFTH YEAR

TEXT BOOKS
OF ART
EDUCATION



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THESE BOOKS WERE PLANNED IN A SERIES OF CONFERENCES AND CONSULTATIONS WITH LEADING ART TEACHERS AND EDUCATORS, AMONG WHOM WERE THE FOLLOWING :

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TEXT BOOKS OF
ART EDUCATION

BOOK V. / / FIFTH YEAR

BY

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Preface.

In presenting to the public the series of Text Books of Art Education, of which this volume is a part, it is desired to state briefly the aims and purposes of the plan upon which the series is based.

It is not necessary to review the history of art education in public schools, nor to present argument for the introduction or retention of drawing as an important study. These questions have been exhaustively treated, and need no fresh discussion. The school that does not offer to its community some kind of systematic art instruction is today an exception.

Education along specific lines should conform to the philosophy which is accepted as fundamental in general educational work. The educational principles adhered to in these books are, therefore, in accord with the psychological laws of child development which are endorsed by the leading educators of the present time, and the effort has been made to work out in these books a series of lessons that shall be not only educationally sound and artistically correct, but at the same time adapted in the different stages to the child's ability to comprehend and his power to express.

With this end in view, the lessons in the Text Books of Art Education have been divided into three groups which may be known as the Observational or Objective Group, in which the study of things is the aim; the Subjective Group, in which the study of principles or laws of beauty is the aim; and the Creative Group, in which the application of accumulated knowledge and ability is the aim. In furthering the work of the first group, the topics so familiar to the art teacher of our modern schools are treated — landscape, plants, life, and still life. In the second group are presented the principles of perspective, of industrial drawing, of color harmony, and most important of all, the principles of pure design. In the third group are placed creative exercises in composition, in decorative design, and in many forms of manual training. While the same division of work is kept throughout the course, the manner of presentation differs greatly in the different years. In the primary grades, the work is largely objective in its character. Children are taught to see and to do. In the intermediate grades, the children are introduced to the principles of arrangement, Balance, Rhythm, and Harmony, which have been adopted as the working basis of this series of books, and in the light of which the subjective and creative

work of the upper grades is planned. As the work progresses through the different years, the subjective and creative sides are more and more emphasized, and the study of objects is felt to be merely a means necessary to an end.

All through the series, there is a definite, logical progression, so that in schools where these ideas are put into practice, there should be no ground for the complaint that the work of the intermediate and grammar grades falls below the work of the primary grades, in general excellence.

These books are the outgrowth of years of experience in practical fields of work. They have been prepared with a keen appreciation of the obstacles which have confronted the art teacher in public education, and with an intimate knowledge of the child mind, in its various stages of development. Never before has an attempt been made to put into the hands of children a text of lessons in art. The illustrations serve the double purpose of illuminating the text and of furnishing the children with standards of work in the various mediums.

Special acknowledgment is made to Dr. Denman W. Ross of Harvard University, for the use of his Theory of Tone Relations, and for the adaptation of his principles of arrangement — Balance, Rhythm, and Harmony — in the subject of Design.

For permission to use in the present book the poem "Talking in Their Sleep" by Edith M. Thomas, and the verses by Celia Thaxter on Page 29, acknowledgment is made to Messrs. Houghton, Mifflin & Company. The verses by Elizabeth Chase on Page 51 originally appeared in the St. Nicholas Magazine, and are here used by the kind permission of the Century Company. The lines by Richard Hovey on Page 1 appeared in Bliss Carman and Richard Hovey's "Last Songs from Vagabondia," and are used by permission of Messrs. Small, Maynard & Company.

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What I want to do is to put definitely before you a cause for which to strive. That cause is the Democracy of Art, the ennobling of daily and common work, which will one day put hope and pleasure in the place of fear and pain, as the forces which move men to labor and keep the world a-going.

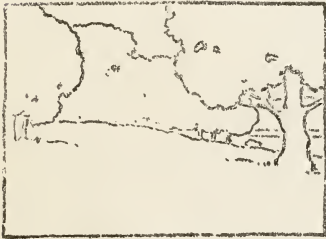
WILLIAM MORRIS.

OUT OF DOORS



LOOK WITHOUT!
BEHOLD THE BEAUTY OF THE DAY, THE SHOUT
OF COLOR TO GLAD COLOR; ROCKS AND TREES,
AND SUN AND SEA, AND WIND AND SKY! ALL THESE
ARE GOD'S EXPRESSION, ART-WORK OF HIS HAND,
WHICH MEN MUST LOVE, ERE THEY CAN UNDERSTAND.

RICHARD HOVEY.



Selecting a Picture.

Views from the Car Window. When you are riding on the cars, you never tire of looking from the window. Every minute brings a fresh picture. There are far-away hills, wide-spreading meadows, peaceful farm-houses and big red barns, rivers, bridges and towns in quick succession. The window is a frame for hundreds of new and interesting pictures as the train hurries along.

A View from the Window at Home. The window at home will show you some part of the great world outside. If you live in the country, perhaps it is grassy fields, trees and a quiet lake. In the city, you may see a street with its busy life, tall buildings on both sides, and overhead the sunshiny sky. Perhaps your home is in a small village or town. Then your window picture may show a quaint cottage, a winding road, or an old house with a garden and a glimpse of the river beyond. Wherever you live, there is always something beautiful to enjoy, if you learn to use your eyes.

Telling of the Window View. When you have found something beautiful out of doors, you will wish to tell others about it. You could do this in several ways. You could write a description of it, you could talk about it, or you could make a picture of it. But in one picture you could not put everything you had seen from the window. That would take too long, and you would lose patience. What you could easily do, would be to choose from the whole view some part that would best tell the story, and make a picture of that.

The Little Pictures in the Large One. On the opposite page there is an interesting view which some artist has seen from his window. Slip your finder over the page, and notice that many smaller pictures are contained in the larger one, just as the view from your window may give suggestions for many different pictures. Find just which part of the large picture was taken to make the first sketch at the bottom of the page. Find the second sketch, and the third.

Something to Do. Choose the sketch you like best from those shown in outline. Take charcoal or pencil and paper, and draw the one you have chosen, making it twice as large in every way. Begin with the enclosure, which may stand for a window-frame, or for a large finder. Remember that with twice as large a space to fill, the trees, and the sky and land spaces must be made twice as large as those in the sketch.

Study some window view seen at home. Tomorrow, bring an outline sketch of what you saw.



Expressing Masses in Value.

When we speak of values in landscape, we mean the different degrees of light and dark seen out of doors, or the use made of black, white and gray in picturing these effects with pencil, charcoal or brush. For instance, the sketch at the top of the page is drawn in three values—the artist has left the white paper for the sky, and has shown the shape of the dark trees by using a dark value while for the ground he has used a value lighter than that which he used for the trees. It has taken, you see, only three values to show how beautiful the trees look against the bright sky. If the middle value had been used for the sky, the white paper for the ground, with the trees in dark value, what season of the year would have been expressed?

Look at the second outline sketch at the bottom of page 2. Draw a picture showing the shapes of those trees against the sky, with the foreground in lighter value than the trees. Do not draw an enclosure. Make your tree shapes twice as large as those in the sketch.

Tomorrow, bring a sketch in three values, chosen from something you have seen from a window in school or at home. Show a tree, the sky and the ground. Use brush and ink or charcoal mass.



Autumn Landscape in Color.

You have learned how to express a landscape in values, or in degrees of gray, something as a photograph would give an idea of the beauty of the trees, the ground and the sky, without being able to show their actual colors.

You can do more in some ways than the camera, for when you see the autumn landscape in its gorgeous coloring, you can paint a picture that will recall the scene long after the season of bright color has passed away.

Have you seen these trees before? Notice how simply the artist tells his story. He used only three washes of color, yet he tells of some glowing maples sunning themselves on a hillside on a bright October day.

Recall some tree, dressed in gay foliage, which you have seen this fall. Try to paint it rising against the clear, blue sky, with the green grass, touched with russet, lying under and around it.

Plan the size, shape and proportions which you wish for your picture, considering whether it should be tall and narrow, or broad in proportion to its height. Then, with a very few light lines, show the slant of the trunk and branches. Next, put on the washes of color—first the sky, then the ground, and last of all the tree. The way the sky peeps through the foliage is charming. Can you show it in your picture?





Autumn Landscape in Color.

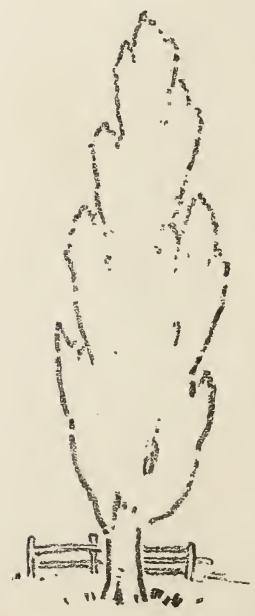
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Shapes of Trees.

How we Know Our Friends. If you know a person very well, you will recognize him some distance away. You know your father when you see him down the street by the way he stands or walks. His height, the width of his shoulders, the shape of his body, the general way in which he carries himself, all tell you who it is, long before you can see the color of his eyes or hear him speak.

How to Know the Trees. Trees are something like people. If you know them well you can tell their names, even when you see them at a distance. If you have once learned to know the elm, the oak, the poplar, the maple, the pine, the willow, and other common trees, you will be able to name them, even when they are a long way off. A wide acquaintance among the trees is a source of great pleasure. They are like good friends.

The Apple-Tree. The apple-tree has a sociable way of leaning over as though he were about to tell something to his neighbor. He likes company, and is most often found in orchards. He has a kindly way of spreading out his arms, as though he were inviting us to help ourselves to the fruit which grows on his branches.

The Maple-Tree. No tree is more trim and regular in its growth and shape than the maple. It is much used as a shade tree along the streets and on our lawns. How beautiful its leaves are in the fall of the year! It seems proud of its beautiful dress, and stands very straight so that it may be seen and admired.

The Lombardy Poplar. Then there is that old soldier, the Lombardy poplar. Have you not seen him standing in line with his brothers, tall and straight and resisting the wind? His branches do not bend gracefully like those of the elm. He seems to wrap them closely about him as a sentinel wraps his cloak. Many an orchard and farm-house are protected from the rude winds that sweep over the fields by a row of Lombardy poplars.

Sketching the Trees. At what kind of trees was the artist looking when he made the sketches on the opposite page? If your school has trees near it, your teacher may wish you to go out of doors or look from the window and sketch their shapes. Or, you may study some familiar tree near your home, making a careful drawing to show its shape and the growth of its branches. Bring it to school, and it will be placed on the wall with the trees drawn by all the other children. Then see if you can tell by their truthful shapes the names of all the trees that have been drawn.

Tree Shapes in Mass.

The drawings on this page were made by using the flat side of the long lead, very much as a brush is used. This kind of work is called pencil painting.

By pencil painting it is easy to show the thick foliage, the sturdy trunk, and the cool shadows underneath the boughs. You will notice in the picture of the maple-tree, that the values are not all alike. Can you see the limbs here and there as they grow upward and outward? How prettily the grass grows around the roots of the trees! Away in the distance can be seen faint pictures of other trees, perhaps as large and as interesting as the one the artist has shown.



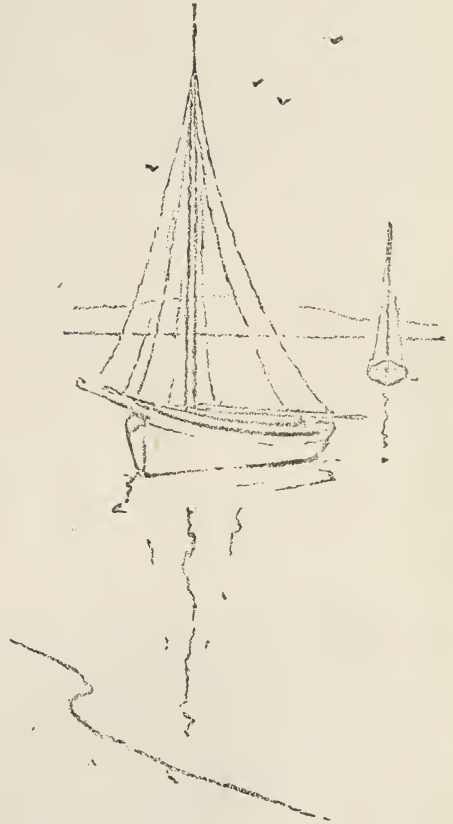
Recall the tree you drew in outline, and make another picture of it today by pencil painting. Tomorrow, you may bring some sketches which you have made at home, and see if your teacher can tell what kind of a tree you studied in this new way.

Study of Boats.

If you live near the water — near a river, or a lake, or the great ocean — you will wish to draw pictures of boats like those which you see every day.

Study the graceful lines of the sloops in the picture on the right. Notice how the sides of the boat curve, and how gently the ropes droop from the mast to the bowsprit and the boom.

How many values are there in the picture of the cat-boat? Who can tell



why the sail of the boat is not left white? And who knows why the reflection of the mast in the water is crooked? Paint a picture showing blue sky, distant gray-green shore, water and a sail-boat like one of these, or like one you can remember.



Day and Night as Light and Dark

The sketches on this page show the same scene by day and by night. Make two simple sketches in three values; one showing a tree against the sky at night, and the other showing the tree in daylight. Use three values in each sketch





Color Contrasts in Different Seasons.

There are other changes taking place out of doors as wonderful as the change from night to day. You do not need to be told the meaning of the four sketches on this page. Notice the warm rich coloring of the tree in autumn, its cold gray-violet tones in winter, the glory of its blossoms in the spring, and the strong, full quality of its coloring under summer skies.

Select a tree from a window view at home or at school, or from a picture, and paint it to represent the present season. Remember that the color of the sky, the ground, and the distance must all tell the story of the season. Use water-color or colored crayons.



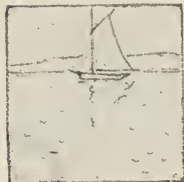


Choosing Shapes of Pictures.

You have selected with your finder pictures of different objects from out of doors, but you have not thought much about arranging the shapes you have chosen so as to express your idea in the most beautiful way. Pictures, like houses, should be carefully planned. If you wished to make a picture with a big tree in it, you would plan a space that was tall, yet wide enough to show how much sky the tree covered. But suppose you were to choose a broad stretch of meadow with some trees in the distance leading on to the horizon. You would then need a broad space to help you in expressing the meadow view.

In the sketch above, the artist has made an outline study of the near tree, and has thought of the space that seems best adapted to its shape. He has then shown a part of the landscape that makes one think how wide the meadow is, and has drawn a picture-plan that will best convey this idea. Notice the different shapes of the two plans.

Draw an enclosure three times the size of the vertical shape, and place within it an outline sketch of the big tree, placing the sky-line in its proper place beyond. Try to place the tree so as to show some of the ground under the branches, and so that the trunk will not be exactly in the middle of the space. Your teacher will make an exhibition of all the pictures, and you must choose those you like best.



Different Thoughts in Different Spaces.

In planning pictures as simple, even, as those on this page, much thought must be given to the work. The shape of the plan must help to express the



thought of the picture, the sky-line must not be placed in the middle of the enclosure, and the size and placing of the other measures must do their part in telling the story. An oblong may be divided by a single line in many different ways, and each placing of the line will express a different idea.

In the six sketches above, the oblongs are not so very different in size or shape, but their positions, and the placing of the measures and shapes within the oblongs tell very different stories. In one, the sky-line is so placed that you could imagine the artist had seen a beautiful sunset sky over the crest of a hill. In another, we look out across a broad expanse of water, lying quiet and calm on a still day. In a third, we think not so much of the hillside as of the large tree; while in another, we find again the stretch of meadow, the small tree on the horizon seeming to lead us into the picture. In one, we think of a lake, with a boat near its farther shore; and in still another, the artist wished to tell us not so much of the lake, as of the boat itself. To do this, he brings the boat into the foreground and nearly fills the space with the shape of the large sail and the outlines of the boat.

Draw four oblongs, two vertical, and two horizontal, making the long lines in each four inches. Place sky-lines in two, expressing different out-of-door ideas. In each of the others place a sky-line and one object in outline, thoughtfully planned for the space.

Problems for Review or for Home Work.

Problem 1. Select with a finder a pleasing arrangement of the large tree in the picture on page 2. Draw its shape in light outline, and locate the sky-line beyond. Study the growth of the tree carefully, and express its mass by pencil painting. Notice that the ground is in lighter value than the tree. Use three values for your sketch.

Problem 2. Make a color sketch of the picture on page 4, expressing the appearance of the hillside on a clear day in summer. Think of the color of the sky, the ground, the foliage. Use water-color, colored crayon or colored pencils.

Problem 3. From your window at home, or from out-of-door study, make outline drawings of the shapes of three trees of different kinds. Write the name of each tree under its picture.

Problem 4. Make a wash-drawing of a lake or harbor at night, showing the moon. Which would be in darker value, the sky or the water?

Problem 5. Make a wash-drawing showing a snow covered field with distant bushes on the sky-line. Use three values. Which would be darker, the sky or the ground?

Problem 6. On page 11 are four sketches showing an apple-tree at four seasons. Make a sketch from the autumn picture, using four values and painting with pencil. What is the darkest color? Which would be lighter, the distant foliage or the ground? In what value would you paint the sky?

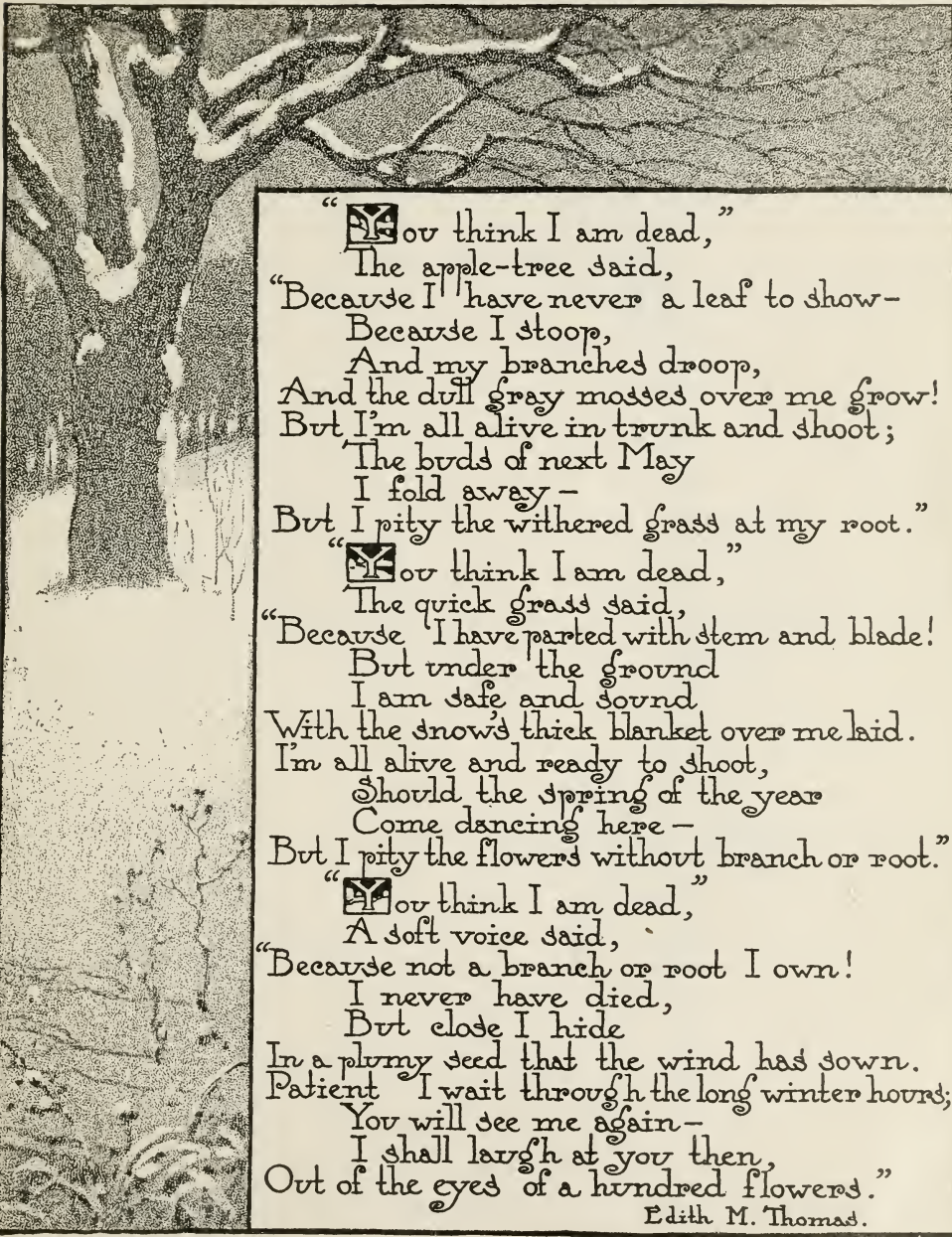
Problem 7. Study again the lessons on pages 12 and 13. Draw two picture-plans, each five inches long, horizontally, and three inches high. Place a sky-line in each to represent the gentle slope of a hillside. Add, by pencil painting, one value for the ground, leaving the sky uncovered. Add two values to the other picture-plan, painting the sky quite dark to represent night, and the ground darker, as it would look upon a night when the moon does not shine.

Problem 8. Illustrate the following:—

“’Twas evening, and before my eyes
 There lay a landscape, gray and dim,
 Fields faintly seen and twilight skies,
 And clouds that hid the horizon’s brim.”

BRYANT.

GROWTH · BLOSSOM · FRUIT



“**N**ow think I am dead,”
The apple-tree said,
“Because I have never a leaf to show—
Because I stoop,
And my branches droop,
And the dull gray mosses over me grow!
But I’m all alive in trunk and shoot;
The buds of next May
I fold away—
But I pity the withered grass at my root.”

“**N**ow think I am dead,”
The quick grass said,
“Because I have parted with stem and blade!
But under the ground
I am safe and sound
With the snow’s thick blanket over me laid.
I’m all alive and ready to shoot,
Should the spring of the year
Come dancing here—
But I pity the flowers without branch or root.”

“**N**ow think I am dead,
A soft voice said,
“Because not a branch or root I own!
I never have died,
But close I hide
In a plummy seed that the wind has sown.
Patient I wait through the long winter hours;
You will see me again—
I shall laugh at you then,
Out of the eyes of a hundred flowers.”

Edith M. Thomas.

Beauty in the Plant World.

The Big Things Out of Doors. In the chapter before this you found much of interest and beauty in the study of the landscape. You looked at the big things out of doors—the sky, the earth, the trees, the lake, the harbor and the boats in it. You have enjoyed the beauty of the different seasons, and you have noticed the great change from light to dark that occurs every day. Even a storm or a rainy day gives something new to think about, when one has become interested in the beauty of the world, and has learned to find beauty in all kinds of weather, at all times of the day, and in all seasons.

The Little Things Out of Doors. But there are other things out of doors as interesting as the hills and the trees, the meadows and the sunsets. If in your walks in the country you should find no flowers in the woods, no clover or thistles by the wayside, no berry bearing vines or bushes in the fences or hedge-rows, no tall sedges and cat-tails in the swamps or marshes, you would miss a great deal that you now enjoy.

In the Garden. If there is a garden at home or at school, you have probably watched for the sprouting seeds, for the growth of the young plants, for the budding and bloom of the flowers, and for the wonderful formation of the seed-pod or fruit. Perhaps you have found for yourself how much beauty there is, for instance, in a squash-vine with its splendid blossoms, its fine large leaves, its luxuriant growth, and doubtless you have been especially interested in the ripening of its fruit.

Picturing the Plant World. In this chapter you are to learn still more of the beauty of the plant world. You know something about representing color with values, and you will enjoy expressing the bright colors by means of values. There will be much to discover about the growth of plants, the variety of shape and position in their leaves and blossoms, and the beauty of arrangement in their seed-pods and fruits. You will find in this new study other ways of enjoying the beautiful world in which you live.

Plant Forms in Design. Flowers, leaves and fruits furnish us with many delightful ideas to use in decorating articles of use and beauty. Our wall-papers often show a design from a plant form. Shapes of flowers and leaves are often woven into cloth, or stamped in colors on ribbons or calico. Look about you in the school-room, at home, and in the stores, and see how many different designs of this kind you can find. Tomorrow, bring a list of what you found.

A Flower with Its Foliage.

Although this flower is pictured here in values, you will recall its bright color and you can easily imagine how it came to be called marigold. What a brave, cheerful flower it is! It holds its head up to the light on its tall, sturdy stem as though it enjoyed the bright summer day, and was glad to grow and blossom in company with its mates in the garden.

Some one has made a fine drawing of the marigold for you to study. Notice the upright stem; the full, round head of bloom; the leaves, with many divisions, springing out in a nearly horizontal direction, and contrasting strongly with the upward line of growth. Notice, too, that the general value of the flower is light, while the leaves are dark. The calyx of the flower and the stem are somewhat darker in value than the leaves.

Study some large, full flower, like the marigold or dahlia. First make a wash-drawing of it in one value, showing nothing but its shape, its size, and the way it grows. Then make another drawing, and bring out with two values the difference in color between the flower, and the stem and leaves.

Show in a third drawing how the flower looks with the bright light shining on it.



Flowers in Color.



'These flowers grow in hothouses and you can get them at any season. Sometimes great bunches of them are to be seen in florists' windows, in colors graded from white and pale pink to dark red. They are something like old-fashioned garden pinks; they have the same spicy odor, and the same slender, grasslike leaves.'

Study the picture of carnations. 'Their growth is more slender and delicate than that of the marigold, although the stems of both are tall and straight.' These particular carnations were chosen that you might notice how much deeper the colors are in one than in the other. In the first or nearer flower, the pink of the blossom and the greens of the leaves and stem are stronger than these colors in the second flower. (See, too, how bright the colors look in the light, and how the parts away from the light seem soft and dark.)

When you draw your own flower, study the growth first, then look for the shapes of flower and leaves. Try to paint just what you see. Be sure to notice how the colors look in the light as well as away from it. (Paint the flower, stem and leaves in their light color first, then touch in the darker parts quickly, before the color is dry. These touches seem to give life and freshness to your work.)

'Carnations will keep a long time after they are picked from the plant, if they are kept in water that is changed daily.'

Value as Related to Color.

In your study of landscape you learned that colors can be represented with degrees of light and dark, or values. On this page you see a painting in neutral values of the same carnations which were shown in color on page 18. With values, every point of beauty in the flower can be shown, except the beauty of the actual color, and even that can be suggested. One of the blossoms was a deep rich pink, the other a delicate rose color. See how well the difference is brought out by means of the grays used in the blossoms. Artists use an expression which applies to such a value painting as this. They say it is full of color. Look at the difference in value between the parts in the light and those away from it, and notice the value of the leaves and stems. Make a little scale and show how many values you can find in the drawing, beginning with the lightest one.

Study the flower given you to draw. Observe its shape, its way of growing, the slant of its stem, and the position and size of its leaves.

Look at the colors shown in the blossom and leaves, and see how light and how dark they are. When you paint or draw a flower, it should stand at some distance from you against a background. In this exercise, three values will probably be enough to use. Choose these with care, and your picture will be as interesting as though it were done in color.



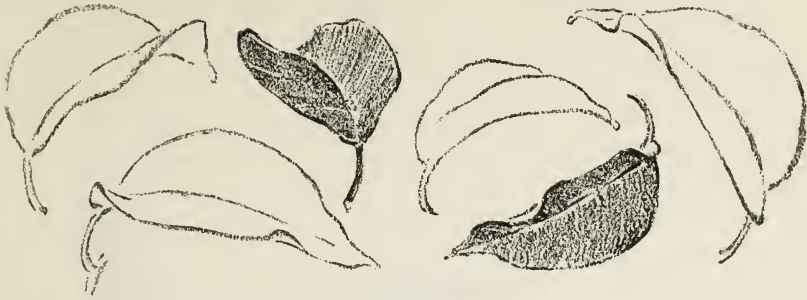
Growth, Proportion and Variation of Shape.

Do you know these flowers? They are the marsh-marigold, the poppy and the delicate cherry blossom. Their petals curve around the heart of the flower and form a shallow cup, into which the sun may shine and the dewdrops fall.

Study the lines that show the shapes of the flowers in their different positions. How many petals are there in each blossom? How would you draw the petals to show the cup turning away from you, or placed so that you could see into it only a little? Observe the three different shapes made by the cherry blossoms, owing to their different positions.

In drawing your own flower, notice whether its face is turned toward you or away from you. Can you see where the petals grow to the stem? Make three outline drawings of the same flower in different positions. Choose a flower, like the apple blossom, that resembles a shallow cup.





Arrangement and Growth of Buds and Leaves.

How glad you are to find the first pussy-willows in the spring! In order to draw or paint them you must study the way the buds grow on the stem. In the picture you will see that they grow upward, one after the other, instead of growing in pairs like the lilac buds and many others. How slender and tapering the twig appears at the top, in contrast to the lower part of the stem! You will be interested in discovering the many different ways in which leaves and buds grow.

The leaves themselves show a wonderful variety of shape, according to the position in which they are seen. Study the shapes shown in the sketches of the dogwood leaf at the top of the page. It is the same leaf sketched in six different positions. Variety of shape adds much to the beauty of a drawing. Learn to draw things as they appear, not as they would measure.

If you learn to see these shapes and to draw what you see, your work will become very interesting to yourself, and it will interest others. Artists fill their sketch-books with careful studies of parts of flowers and plants. In this way they learn much that others do not know, because they see much that others do not see.

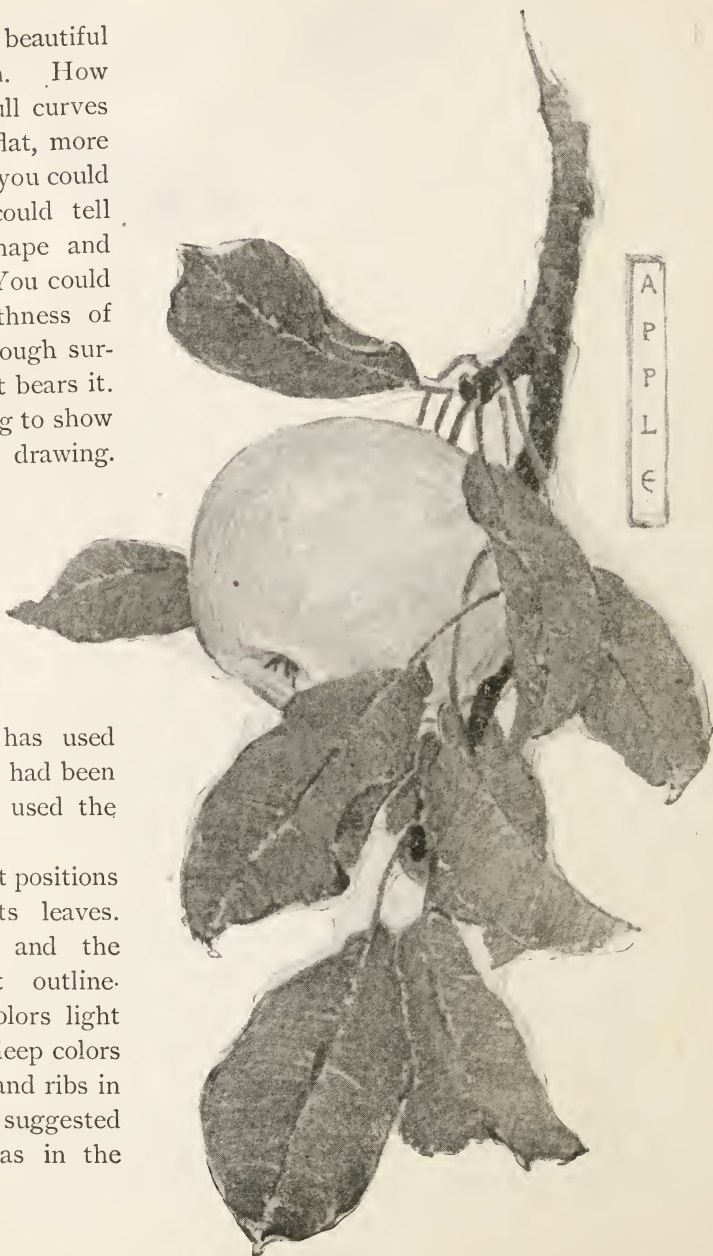
In drawing from your own twig or leaf, make your sketch tell a truthful story. Choose a position for your specimen that you think will show beautiful shapes.



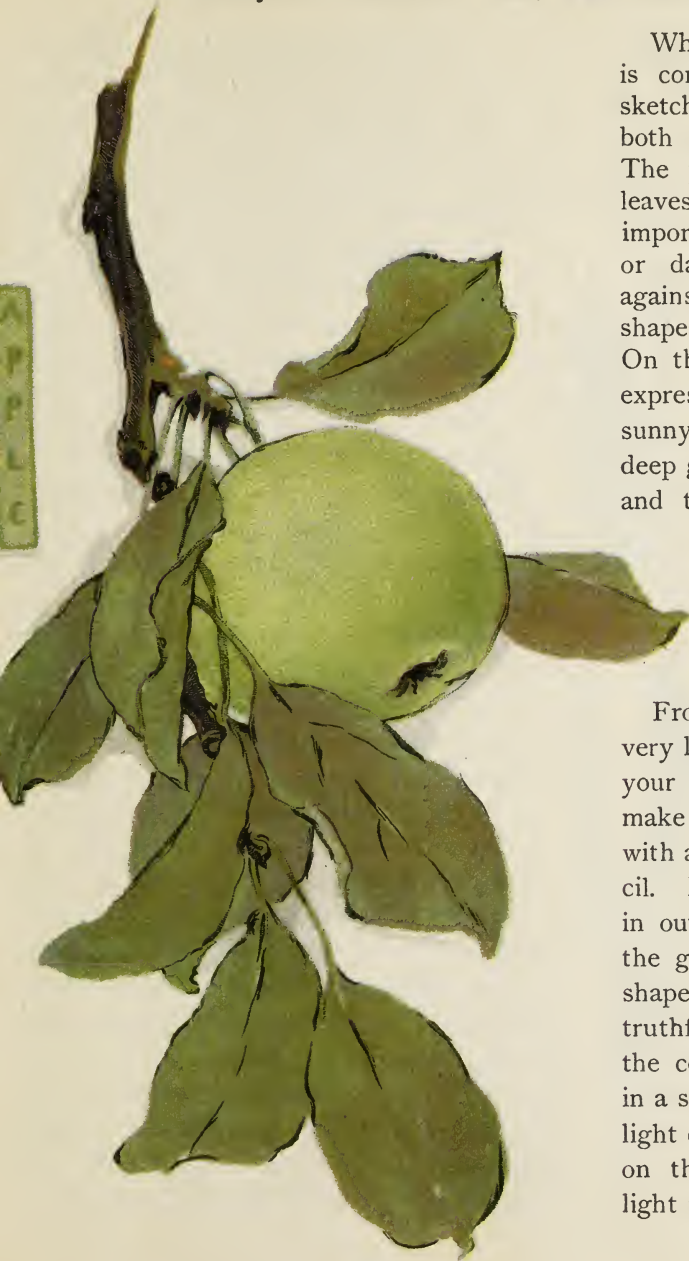
Growth Studied in Line and Value.

Here is another beautiful example of growth. How the apple with its full curves contrasts with the flat, more slender leaves! If you could touch them you could tell the difference in shape and surface instantly. You could also feel the smoothness of the apple and the rough surface of the twig that bears it. You will enjoy trying to show these things in the drawing. Then, to tell something of the color of the apple, the leaves, and the woody branch, you must study their values. In the picture the artist has used three. If the apple had been red, would he have used the same value?

Study in different positions some fruit with its leaves. Draw the growth and the shapes in faint outline. Make the light colors light in value, and the deep colors dark. The veins and ribs in the leaves may be suggested by delicate lines, as in the artist's sketch.



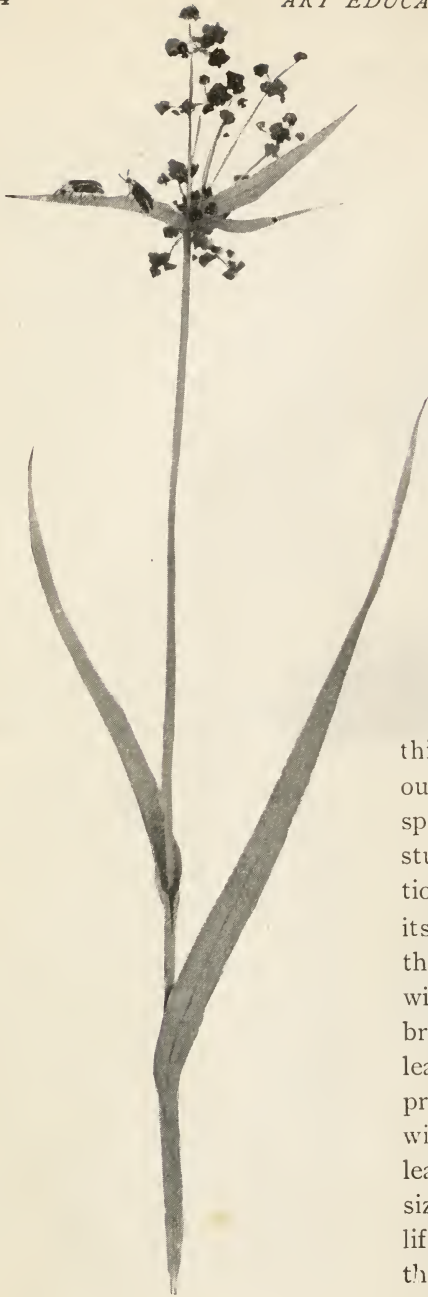
Study of Growth in Line, Value and Color.



When the sketch in values is compared with the color sketch, you will see that both pictures are truthful. The particular color of the leaves or the apple is not so important, but the lightness or darkness of one color against another makes the shapes stand out clearly. On this page the artist has expressed very simply the sunny green of the apple, the deep gray-green of the leaves, and the dark gray-violet of the branch. How delightfully he has shown the deep dimple where the blossom grew!

From your own fruit, draw very lightly in outline — with your brush, if you are to make a water-color study, or with a crayon or colored pencil. Do not finish the shapes in outline, but be sure that the growth, proportions, and shape of all the parts are truthfully expressed. Add the colors freely; and show, in a simple way, the effect of light on the fruit. The color on the part away from the light will be a little darker.

Grasses and Sedges.



Here is a sedge with an arrow-like leaf, which is common everywhere. If you have gathered sedges, you know that their stalks are not round and fresh, but three-edged and dry, and that their flowers are stiff and straw-like in quality. What wonder, then, that the sedges are said to whisper hoarsely when rustled by the wind!

Notice, in your own grass or sedge, the peculiar wrapping of the stem at the base of the leaves. How different this is from the growth you observed in the apple, the carnation and the marigold! It is a family characteristic of the grasses; and you must study to express it truthfully.

Tall, slender growths like this are fine things to draw freely with the brush, without first outlining the shape. Place your specimen against a background and carefully study its upright stem, the shape and direction of its leaves, the growth and position of its flower. Then draw the main stalk and the leaves, trying to express their character with the first stroke of the brush. Hold the brush lightly, so that it will respond to the least movement of your fingers. A slight pressure of the brush upon the paper will widen the stroke for the broad part of the leaf. You can express the growth, direction, size and quality of a leaf like this, without lifting your brush from the paper.* Practice this free brush drawing of simple grasses.

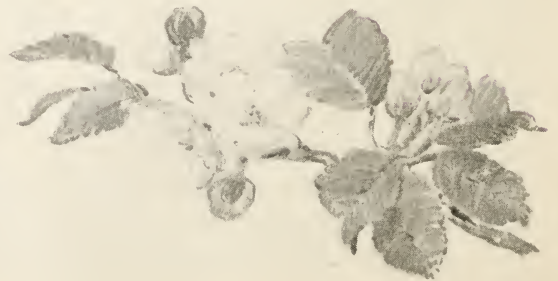
Picture Making.

In your study of landscape, you selected with your finder the part of a window view most interesting for a picture. You also found that certain shapes in the picture, such as an upright tree, or a broad stretch of water, demand certain shapes in the picture-plan.

In the sketch on this page, the artist wished to call attention not to the whole plant and its growth, but to those parts which suggested a pleasing variety of shape. So he slipped his finder about, until the cat-tails and parts of the stem and leaves seemed to make an interesting arrangement in the space. Then he knew what part of the plant to select for a picture.

Fasten a growth of sedge or grass to a tall background. Make a finder with an opening as long and as wide as you wish your picture. Place this opening over a beautiful part of the plant, and fasten it against the background, so that you can study the shapes seen within the enclosure. Then draw an oblong to correspond to the opening in your finder, and place within it the arrangement you see. Be careful to make the shapes truthful. Use brush and ink or charcoal gray, and draw freely, without first outlining the shapes.





The Tree as Nature's Calendar.

Nature's Calendar. For some time you have been studying the growth and beauty of plants, flowers and fruits. Have you ever watched a tree or plant throughout the year, and noticed how it changed from season to season? If you train your eyes to see these changes, you can tell the time of the year by looking from the windows, just as you find the months and the days by looking at a calendar. Nature shows her calendar in the trees and plants and flowers.

Autumn and Winter. What does the apple-tree bring in the autumn? Fine, ripe, juicy fruit. All through the summer we have waited for the little green apples to ripen and become sweet. At last our waiting is over, and as we gather the fruit the leaves fall and rustle at our feet. One by one they go, until the tree is left, with its gnarled and twisted branches, naked and cold. Then the snow comes, and lodges on the outstretched limbs, or perhaps the rain falls and freezes to the rough bark, covering it from the tiniest twig on the top-most bough to the sturdy trunk below with a shining coat of ice. How the branches bend and creak when the wind rises! The little twigs are broken by a weight they cannot bear.

Spring and Summer. In the warm sunshine of early spring, the roots absorb moisture from the thawing ground, the sap begins to rise again, and you can see the faint green coloring in the tiny twigs at the end of the branches. Soon the apple-tree bursts into bloom. All pink and white it stands, telling us that winter is surely over. We enjoy the beautiful blossoms for a few days and then the petals drop off, leaving only tiny green cones, to grow and swell and ripen into big round apples. How beautiful the tree is, with the dark green leaves twisting and curling around the growing fruit! You see that the tree has told the story of the year, and has marked each season as it passed.

Drawing a Calendar. Try to draw one of nature's calendars. Make four sketches from the life of any seed you have planted, and see if the pictures will tell the story of the year as plainly as the apple-tree tells it. Recall a garden plant, or a weed or wild flower, and think how it looks in the different seasons. Show it in the spring-time, with its tiny leaves of tender green; in the summer, when they have grown to full size and hold a lovely blossom in their midst; in the fall, with the seed-pod; and in the winter, when the leaves have fallen and the blossoms gone.

Problems for Review or for Home Work.

Problem 1. Make a brush drawing in one value of a large flower with its foliage. Place the drawing on paper adapted to the proportion, size and shape of the growth.

Problem 2. Paint a bright flower, growing with its foliage. Show where the light strikes the blossoms. A stalk of red geranium would make a good study.

Problem 3. Express in neutral values, by pencil painting, the same flower used in Problem 2. Use three values, and place a scale beside your drawing showing this. Plan your paper to suit your sketch.

Problem 4. From a growth of sweet-pea, draw as many different shapes as you can find. Study the front and side views of the flower, the buds, the leaves in different positions, the seed-pods and even the tendrils. Draw all these shapes in life size, with pencil or charcoal outline.

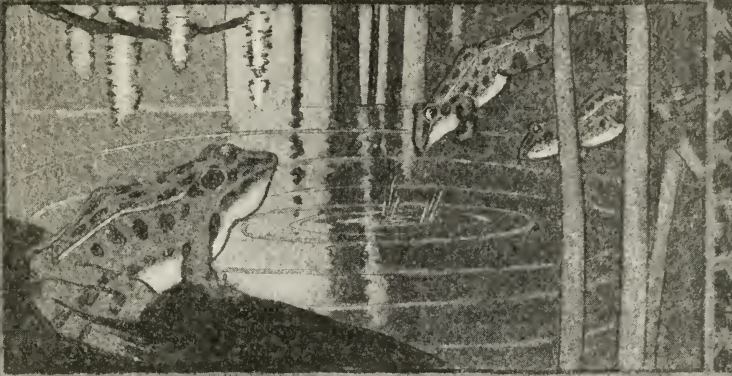
Problem 5. Find a large heart-shaped leaf, such as the linden, the lilac, or the morning-glory. Study it in four different positions. Make outline and mass drawings in life size.

Problem 6. Make a one-value drawing of a seed-pod growing on a stalk. Any vegetable or fruit with its growth will make an excellent study. Use pencil painting or brush and ink.

Problem 7. Arrange a beautiful growth of grass or a spray of leaves against a background. Pin a large finder over the part most interesting for a picture. Draw the picture-plan, or enclosure, first. Study the arrangement of shapes carefully. Draw freely with the brush, expressing but one value.

Problem 8. Express the same, or a similar composition in color, drawing the enclosing line in strong gray-green. A spray of woodbine in autumn coloring would make a good study. If you choose this, draw a few direction lines before painting in the masses.

LIFE AND ACTION



THE ALDER BY THE RIVER
SHAKES OUT HER POWDERY CURLS;
THE WILLOW BUDS IN SILVER
FOR LITTLE BOYS AND GIRLS.

THE LITTLE BIRDS FLY OVER,
AND OH! HOW SWEET THEY SING!
TO TELL THE HAPPY CHILDREN
THAT ONCE AGAIN 'TIS SPRING.

THE GAY GREEN GRASS COMES
CREEPING
SO SOFT BENEATH THEIR FEET;
THE FROGS BEGIN TO RIPPLE
A MUSIC CLEAR AND SWEET.

CELIA THAXTER

Action as an Element of Interest.

A New Interest. In the out-of-door world you have discovered much that is wonderful in landscape, in flower, foliage and fruit. So wonderful has it seemed that another great out-of-door interest may have escaped your attention. Trees and flowers, grains, grasses and garden plants are not the only things in this world that live and grow.

• **Out of Doors.** No matter how beautiful the landscape in the country, or in a city park, may be, you are instantly attracted by a sign of this other kind of life. If a gray squirrel runs across your path you forget the green grass, the bright sunshine and the beautiful flowers. Your eyes follow the squirrel, until he has scampered away and is hidden among the trees. How much you enjoy the flight of a bright butterfly! A robin hopping along in his search for worms never fails to interest you. Have you seen a sparrow taking his morning bath in a pool of water or at the rim of a fountain?

The Action of Animals. The squirrel, the butterfly, the bird and all other creatures that run, or fly, or swim, or crawl, have something that no tree or flower has ever possessed. It is action. The flower and the leaf may be ever so beautiful (in color and shape, but they cannot move from their stems. They cannot move at all, except as the wind bends them. They have no action of their own.

Why Animals Interest Us. It is because animals have action that they possess greater interest for us than plants and flowers. They can move about as we do. Great artists have shown their skill in expressing this. • Recall the picture of "Oxen Ploughing" by Rosa Bonheur, and "The Horse Fair" by the same artist. Each of these pictures shows the action of animals in a marvellous way.

Pictures of People. Of course you know that people are the most wonderful animals that live. To express their life and action is something which the greatest artists in the world have studied most to do. If all the pictures ever painted could be counted, pictures of people would be found in greatest number.

Expressing Life and Action. You are to draw and paint from the pose, and by carefully studying the lessons and the pictures, you will find that it is more important to express life and action in your sketches, than it is to put in all the colors or values that you may see. Just as growth is the first thing to look for in studying trees and plants, so life or action is what we must first try to express in this new work.

Rapid Sketching of Animals.

Sketching from animals differs from other kinds of sketching because the model is apt to change its position frequently during the lesson. Our pets do not understand why they should not move about when they feel like it.

The sketches on the left show only the more important or leading lines of the animal, yet they are full of action. Find a comfortable looking family cat; one that wants petting; a listening rabbit. The pencil-sketches on the right show how these first sketches might be made into more finished drawings. Light and dark masses are often suggested by the coloring of animals, as in the sketches of the rabbit.

Draw quickly the leading lines that tell how the model is standing or sitting. Do not spend any time on the details. Work rapidly, making every stroke of your pencil count. If your model moves you must instantly begin another sketch showing the new pose. After the lesson your page should be full of small drawings of the various positions taken by



the model. Some of these may show the entire animal, while others may merely show an ear, or a line of the back and a bit of the tail; but if you closely observe the animal, even these few lines will express its action or attitude.





COCOOON



LARVA



ADULT



Painting Birds and Insects.

Observing the Model. When you know how to study animals or birds, it makes little difference whether you sketch with a pencil, or use ink or color. The chief thing is to observe the model, rapidly putting down what you see, and bringing out the large shapes before sketching the details or smaller things.

How the Parrot was Painted. For instance, in painting the parrot on page 32, no effort was made to sketch each little feather. The artist first drew a very few faint lines, or painted a light greenish wash, showing the shape and action of the bird; then he put on the rich color, suggesting the feathers by a few strokes along the wing, crest and tail. Polly has an interesting way of twisting her head around, and her great crooked beak makes her face look homely. Few birds, however, can boast of such gorgeous coloring.

The Shapes of Birds. A great variety of shapes may be found among birds. There is the stork who has very long legs so that he can wade in deep water, and a long slender bill which he uses to fish with. Again, there is the duck who finds short legs and webbed feet much more convenient for her use. Barn-yard fowls have heavy bodies and small clumsy wings, but birds that fly long distances have small bodies and large wings. A bird's legs are usually set far back on the body, a thing which children when drawing sometimes forget.

Can you tell the difference in shape between a blue jay and a woodpecker, or between a goose and a hen? Have you noticed how differently a pigeon and a robin walk?

The Beauty of Insects. Moths and butterflies are as interesting as birds. You can find in their wings as beautiful designs and colors as any artist ever painted.

The Caterpillar and the Moth. On page 33 you will find some sketches showing the dainty blanket which the green caterpillar spins and in which he spends the long winter months. Who would dream that the homely worm could weave such a covering, or that he could turn into the beautiful moth shown at the bottom of the page? Notice the graceful shape of the wings, and their beautiful design. There are large spots and small, dark ones and light, for Mother Nature knows that these things are all parts of a beautiful whole. Have you ever found a cocoon? Are all cocoons alike?

In painting birds or butterflies the eye and the hand must be busy. Both are needed.

Sketching the Dog.

Among your four-footed friends can be found no better models than the members of the dog family. Certain things, however, should be noticed before beginning to sketch, else your poodle may look like a mastiff, your pug dog like a greyhound, and your terrier like a spaniel. Worst of all, your sketch may not look like a dog at all. See whether your model has short erect ears or long drooping ones. Is his nose broad and square or slender and tapering? The shape of his body, the length of his legs, the kind of tail he has, should all be studied.

In making these sketches the artist started anew every time his model moved. Notice the straight lines which give character to the drawing. See how the joints of the legs are studied. Children sometimes draw a dog's legs like the legs of a table.

Make outline drawings of a dog in various positions.



Snap-shots of Children in Action.

When you were very small, perhaps you owned a Noah's Ark. Do you remember how stiff and lifeless all the people looked? Their poor little knobs of heads could not bend or turn, their arms were glued to their wooden sides, while their bodies were rigid as could be.

You have all seen dummies in the show-windows. They have fine figures, and they stand very still. But an artist would rather have for a model, one wide awake boy or girl than all the wax or wooden figures ever made.

Today, you are to make some pictures of real live children. You may call your drawings snap-shots because they are to be done very quickly. They must be small, too, about the size of those on this page; but a small sketch may be as full of life as a large one, just as a little boy may be as full of life as a big one.

Watch your model as he runs around the room, and then make a quick sketch showing the action. Use pencil or brush and ink.



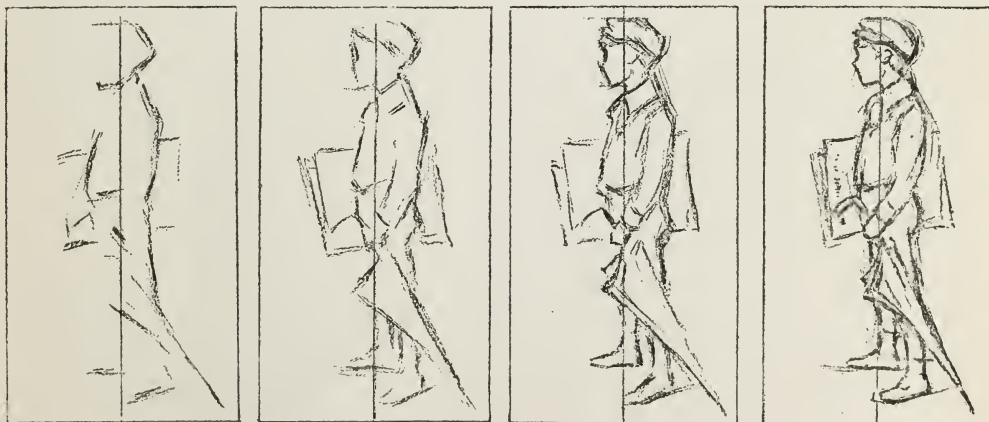
Drawing the Figure.

When the foundation of a house is ready and the carpenters begin to build, they first erect a framework, for the beams and rafters must be there before they can put on the siding, roofing and finishing. An artist works in much the same way when sketching from the pose. He calls his beams and rafters lines of direction.

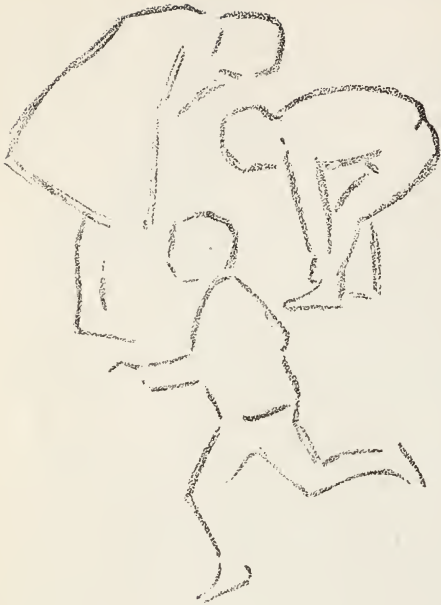
In drawing the boy with his umbrella and portfolio, the artist did not begin by making a finished drawing of the cap or by showing the folds of the umbrella. First, he looked at the model, and then by a few strokes of his pencil he showed the main lines of head, body, umbrella and portfolio, and the position and slant of the feet. Notice the proportion of the head to the body, and the width of the legs and arms. Why is one foot drawn a little higher on the page than the other?

Study carefully the drawings below and see how the finished drawing is built upon the direction lines of the first drawing. The sketches show you four stages or steps in the work. Proportion and the leading lines are shown, roughly but truthfully, in the first. A few more lines are added in the second to complete the shapes. The third and fourth sketches show a few details of the clothes, and the lines deepened in certain places to lend snap or interest.

Make sketches from the pose of boys and girls in various positions. Use pencil or charcoal and work for leading lines and right proportions.



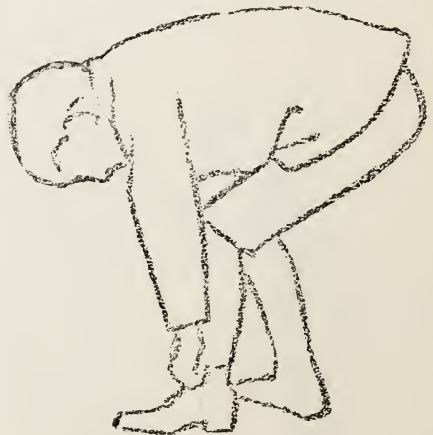
Drawing the Bending Figure.



On page 37 we compared the making of a sketch with the building of a house. The framework of a building shows what its shape will be when finished, and the same is true of the first lines of a drawing. Even from such simple sketches as those in the upper corner of this page, you can tell many things about the models. The direction lines there tell us that one of the models was a girl posed as though she were crying. If she had stood up straight would the bottom of her skirt have slanted as it does now?

Notice the angles at the knees in the running and bending positions. Bend your own arm at the elbow and your leg at the knee, and you will find joints that work like hinges. These joints must be expressed by angles in your drawing. Did you ever hear of a jellyfish—a strange creature that has no bones and very little shape? Do not draw boys and girls of that sort.

Study and draw from the pose several bending figures, trying to make them express life. Remember that this can be done only by getting the right direction for the leading lines. Study for the correct proportion of the head, the length and width of arms and legs, and locate knees and elbows carefully. Pay no attention to eyes, nose, mouth, or details of any kind. A somewhat broken, sketchy line is best to use, as you study the pose. After making a number of action sketches, make one drawing a little more finished, remembering the lesson on page 37.



Picture Making.

When you are able to show shape and action in your drawings of people and animals, you will enjoy making them appear to be out of doors. For instance, a boy might stand on the teacher's desk and take a fishing pose. After finishing the sketch, a few lines might be drawn to represent a dock or the bank of a brook.



Notice how the artist has suggested out-of-doors in the sketches on this page. In the upper one, the trees in the distance show that the running figures are in the country; while in the lower picture, a few rocks and a distant shore-line make an interesting background for the little fisherman.

Would the lower landscape on this page have been suitable if the pose had been a newsboy, a girl paring apples, or a rabbit? Suppose the fish-pole had been horizontal like the water-line, would the picture have been so pleasing?



Copy a rabbit from page 31 or the boy from page 37, adding a landscape background. The landscapes in "Out of Doors" will help you.

Draw from a pose, using pencil outline and simple washes of color, and putting in a landscape background. The figure must be carefully studied, for no amount of paint will hide careless drawing.

Problems for Review or for Home Work.

Problem 1. Study some of your home pets, making a number of small sketches on a page, and using pencil or brush and ink.

Problem 2. Paint a picture of a bird or fowl, working from the live model. Roosters, especially those showing golden browns and blue-greens, are very good subjects to paint.

Problem 3. Make a pencil sketch of a boy flying a kite, pulling a sled or playing some game. Use a simple landscape effect to show that he is out of doors. Make the sketch in pencil painting, using three values.

Problem 4. Make action sketches from one minute poses showing the following positions: pulling, pushing, kneeling, jumping and sitting.

Problem 5. Bring to school an illustration, from some book, magazine or newspaper, which you think shows good action.

Problem 6. Pose a girl as Red Riding Hood. Draw lightly. Suggest a landscape background. Use simple washes of color.

Problem 7. Write a short illustrated story about some animal you have known.

Problem 8. Make a picture illustrating the following lines:

See the Kitten on the wall,
Sporting with the leaves that fall,
Withered leaves — one, two, and three —
From the lofty elder tree!

.

But the Kitten, how she starts,
Crouches, stretches, paws and darts!
First at one, and then its fellow,
Just as light and just as yellow.

WORDSWORTH.

BEAUTY IN COMMON THINGS



In one of Murillo's pictures in the Louvre he shows us the interior of a convent kitchen; but doing the work there are, not mortals in old dresses, but beautiful white-winged angels. One serenely puts the kettle on the fire to boil, and one is lifting up a pail of water with heavenly grace, and one is at the kitchen-dresser reaching up for plates; and I believe there is a little cherub running about and getting in the way, trying to help. What the old monkish legend that it represented is, I do not know. But as the painter puts it to you on his canvas, all are so busy, and working with such a will, and so refining the work as they do it, that somehow you forget that pans are pans and pots pots, and only think of the angels, and how very natural and beautiful kitchen-work is.

W. C. Gannett.

Finding Beauty in the Common Things about Us.

Better than Gold. We have all seen many beautiful things which are so costly that only the people we call rich can own them, but all the wealth in the world cannot purchase that which may most contribute to our enjoyment.

Love of Beauty. Money cannot buy health or happiness, nor can it procure for us a love of beauty. A child who can get joy and pleasure from woods and fields and rivers, from "cloud and beast and flower and changeful day," is far richer than was old King Midas when everything he owned had turned to gold.

A Common Weed. One needs no special training to be able to admire a rose, yet in its own way a common thistle by the wayside is as beautiful. Artists have found in the strength and character of its growth, and in the interesting shapes of its leaves, buds and blossoms, material for many designs in wall-paper, in textiles and in other manufactures. The thistle also shows in its purple blossoms and gray-green leaves, a beautiful color arrangement. So it is with many other weeds that we have unkindly despised.

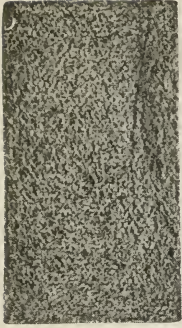
Beauty in our Homes. Many of the interesting things about us have not grown out of doors. People live in houses and place in them objects of use and beauty. We need beds and tables and chairs with which to furnish our houses, and dishes of many kinds in which to prepare and serve our food. These things must be, first of all, fit for their use; but if, after that, they are of such a nature that we look at them with pleasure, in their own surroundings, our homes will certainly contain some element of beauty.

Use and Beauty. Even the Indians and other primitive people decorate their bowls and jars, and weave bright colors into their blankets and baskets. They see to it that these objects of daily use are strong and serviceable; but it is as natural for them to decorate a basket, as it is for them to make it. And so we often find these articles which the Indians intended for very different purposes, used as decorations in our houses and prized because of their beauty.

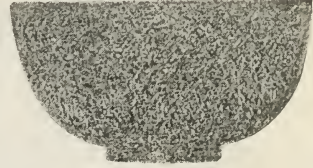
Expressing Beauty. An artist sees beauty in the common objects of every-day life, and he delights in expressing to others what he has seen. If you know how to find beauty, and if you are able to create something beautiful yourself, how much you will enjoy creating it, and how useful to the world you may become! The lessons in this chapter are planned to help you do this.

Let us learn to look for beauty in common things.

Proportion of Masses as an Element of Beauty.

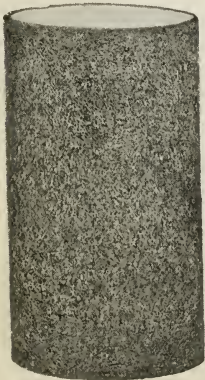


Did you ever look at yourself in one of those curving mirrors that make a person appear very long and thin, or very short and stout? The color of your hair, eyes, complexion and dress were truthfully told by the mirror. The action was perfectly reflected too, for every movement you made was shown in the glass. It was only the proportions that the mirror represented falsely, but that made all the difference in the world.



In making a sketch of an object, the first thing to study is its proportion, or the relation of its height to its width and thickness. Sometimes proportion is expressed by outline only; sometimes by painting a mass with pencil or brush.

The upper sketches on this page show in mass the proportions of a Japanese spill — a high mug without a handle — and a bowl. They were held on a level with the eye, so the inner white lining did not show. In the lower sketches the objects were placed a little below the eye. Notice how much the narrow ellipses and the curves in the lower edges add to the beauty of the forms. In each object the proportion of the light mass in the ellipse to the dark mass of the rest of the object seems pleasing. Had the objects been held six inches lower the ellipses would have appeared much wider from front to back, thus making the light mass larger and of less pleasing shape.



Sketch, in pencil painting, a simple bowl or vase with a white lining and a dark outside. Show the object on the level of the eye, then a little lower, and then so placed that the ellipse appears twice as wide from front to back as in the second position. Of the three positions which is most pleasing?



Showing Color by Value.



You have already learned that values are degrees of light and dark, and you have seen in the lessons on "Out of Doors" and in those on "Growth, Blossom, Fruit," that one may show a suggestion of color even in a pencil-sketch. For instance, by using different values in the sketch on page 4, the artist has told us of a sunny meadow with dark green trees in the distance. Had he made the sky, field and foliage all of one value, his picture would have

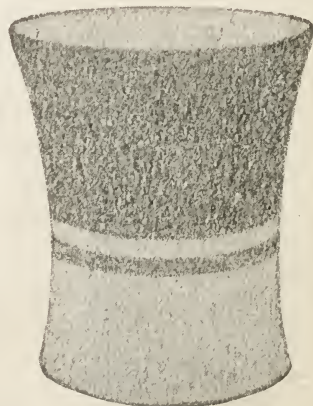
been a meaningless gray mass. Again, in the sketch on page 19, you can easily tell which carnation was scarlet and which was pink. The sketch at the top of this page was made from a brown cup with a white lining. The mug shown below was gray and dark blue. Which color is represented by the darker value?

The sketches of the cup and mug are more pleasing because of the contrast of light and dark that is shown. If the lining of the cup had been of the same color as the outside, a point of interest would have been lost. In the mug, the gray mass of the ellipse contrasts agreeably with the dark mass of the upper part of the outside. Suppose the mug had been dark blue on the lower part, and gray at the top, with a gray lining. Would the sketch have been as pleasing?

The cup and mug might have been placed so that the ellipses at the top would have appeared much wider. Sketches showing them in such positions might be truthful in every particular and yet lose something of their beauty.

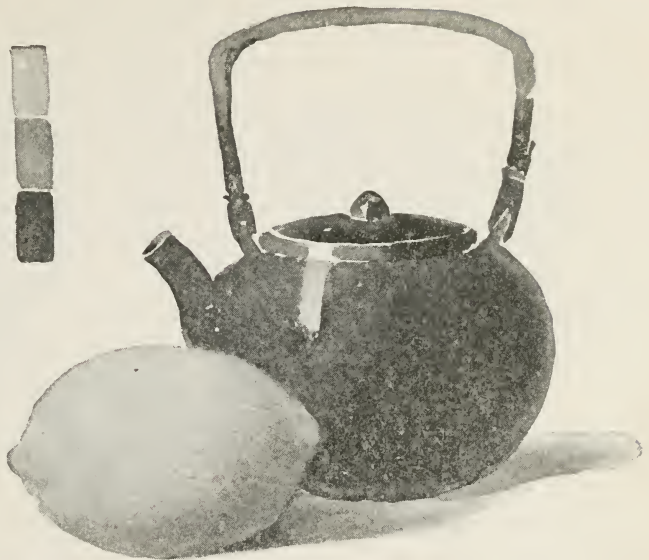
Look at the many colored objects about the school-room or in your own home. Choose something light and something dark and think in what value you would draw each. Think of a light green book lying near one that is very dark blue. What values would show these colors?

Draw two objects showing contrast of color.



Making a Group of Two Objects.

(Many points must be considered in grouping two objects for a study. First, one must think whether the objects are suitable together. For instance, a tin dipper and a pail group very well, and a violin might be placed with a sheet of music; but the violin with the dipper, and the pail with the music, would make very queer looking groups. Would a snow-shovel group well with a rake, or a potato with a rose?)



There should be contrast of size, for two objects having the same height and width would not look well in a group. There must also be contrast of light and dark, or of color.

The objects in the sketch on this page group very well together. In the first place, the lemon is appropriate with the tea-pot, since many people serve tea as the Russians do, with a slice of lemon in place of cream. The objects offer contrast of size, and their positions are thoughtfully chosen. Would the group be as pleasing if the handle of the tea-pot were pushed down? Last of all there is contrast of values. Had the tea-pot been light the study would not have been so interesting.

Notice the high lights — the bright spots made by the light shining upon the polished surface of the tea-pot. They are very small but their shapes should be carefully observed.

Make a wash-drawing of a group of two objects, trying to show in values their difference in color. Place one object in front of the other to express a "near and far" effect.

Groups of Objects in Color.

Some Groups to Study. The sketches on the next page will interest you in several ways. They represent objects that any one might see at home in the kitchen, yet the artist has chosen them as suitable subjects for pictures.

(**Contrast in Color.** In grouping the objects great care has been taken that each object may bring out the charm of its companion.) The rosy apple looks all the brighter as it rests against the blue-gray mug. The dark green bowl forms a fine contrast with the bright little radish. The scarlet and green peppers are much more interesting together than either would be alone. The yellow onion seems to need the richer coloring of its neighbor in order to give a pleasing effect.

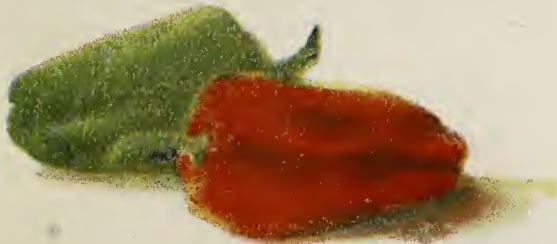
(**Contrast in Size.** There is another thing to consider in arranging a group, and that is contrast of size.) In the upper sketches the mug and the bowl are larger than the apple and the radish. In the sketches below, less difference in size is seen, but the green pepper is so placed as to present a larger mass than the red one. In the group of onions, the long sprouts give needed height to the arrangement.

Contrast in Shape. There is also a reason for placing a tall mug with a round apple. (The same shape repeated in a group would be tiresome.) The different shapes of the radish, its leaves, and the bowl, make the second group particularly pleasing. Observe, also, the beauty of proportion in the ellipses of the bowl and mug. All these points were thoughtfully considered before the sketches were made.

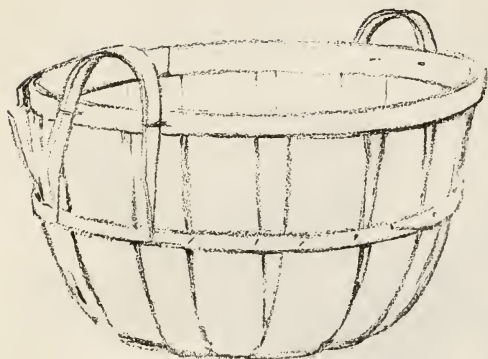
Contrast in Position. (When we are arranging in a group two objects of similar proportions, we can plan their positions so that the shapes seen will be quite different.) The actual shapes of the green mass in the third group, and of the dark violet mass in the last, are not too much like the shapes of the red pepper and the onion.

(**Near and Far.**) Suppose the objects in each group had been placed side by side, so that the whole shape of each member could be seen. Would you have liked such an arrangement? You have found in your study of other groups that "something near and something far" is another necessary contrast.

What to Draw. Paint with water-color or draw with colored pencils a group of two objects. Sketch the leading lines very lightly before painting. Use your colors freely and freshly. Study the colors as they appear away from the light, and express the shadow cast by the objects.



The Rendering of Surfaces.

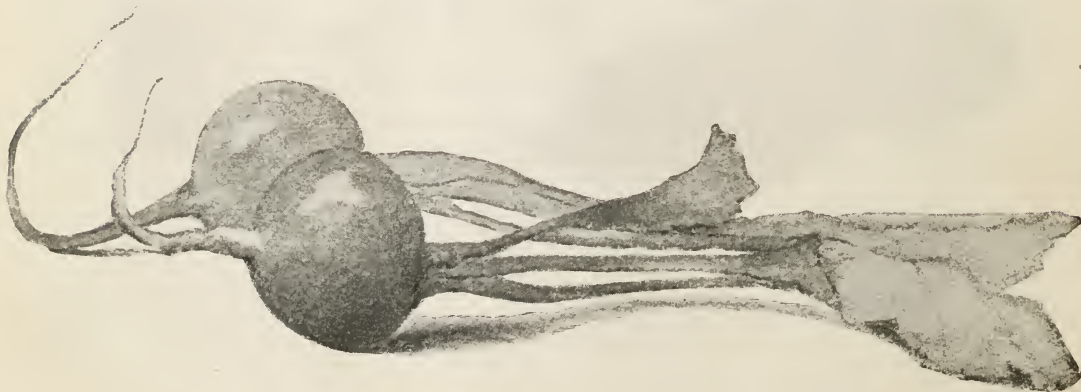


The artist not only shows in his sketch the shape of an object, but he also suggests the material of which it is made. His tin pail must not look as though it were made of wood, nor should the leaves of his flowers look like paper. The difference between the smooth, shiny tea-pot and the rough lemon is well shown in the drawing on page 45. Turn to the sketch of the apple-tree on page 8,

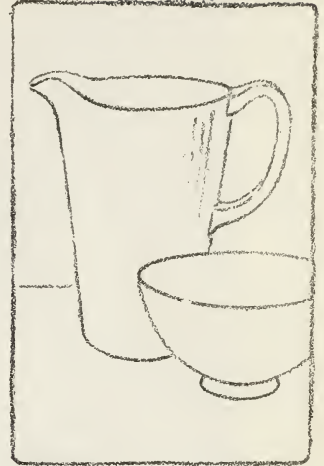
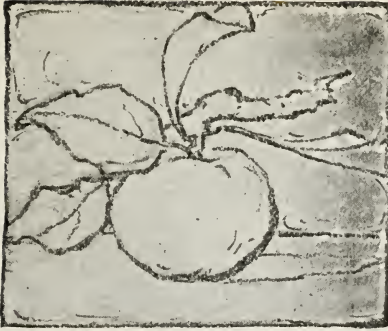
and see how well the soft foliage and the hard bark are represented. On page 22, quite different pencil strokes have been used in showing the smoothness of the apple and the roughness of its leaves.

Study the sketch of the basket in the upper part of this page. See how the ragged, sketchy lines show that the basket was old and rough. Are the tumblers on page 55 drawn in this way? Would you sketch a robin's nest and a china bowl with the same kind of lines? In the wash-drawing of the radish, one feels the crisp smoothness of the root in contrast with the roughness of the drooping leaves.

Make an outline drawing of some object that has a rough surface. Use pencil or charcoal. Make a wash-drawing from some smooth object, using ink or charcoal gray.



Still Life Shapes Balanced in Space.



When an artist has chosen an interesting subject for a picture, he plans a space in which he can arrange his drawing to the best advantage. Using his finder to represent the enclosure in which his picture is to be placed, he tries it in different positions until he is satisfied that he has found the best arrangement of shapes that his study can present. Then he draws his picture-plan.)

Within it, he is to draw the shapes he has seen in his finder. But the shapes of the objects are not the only things about which he must think. The spaces left within his picture-plan have quite as much to do with the beauty of his work as the careful drawing of all parts of the objects.)

You can understand that this is so if you will think of a picture in the school-room, beautiful in itself, but hung upon a wall space that is too large, or unsuitable in shape. (A tall narrow picture would not look well in a large horizontal space above a blackboard. The picture and the space would be inharmonious or out of balance.) You will see that we must study not only the thing to be drawn or painted, but its relation to the space in which our drawing is to be placed.)

On this page you will find two examples of beautiful spacing. Had the apple been drawn a little higher, it would have been too near the middle of the space, and the table-line would have divided the enclosure too evenly.

You will notice that it is not always necessary to show within an enclosure the entire outline of all parts of an object.

Draw within a chosen space a group of two objects, thinking about the shapes drawn and the shapes left. Use charcoal or pencil outline.

Problems for Review or for Home Work.

Problem 1. Make, in pencil painting, sketches of the following objects: a crock, a plant-jar, a jug. Work for correct proportion, and express the color in values, as on page 43.

Problem 2. Group two objects showing good color contrast. Sketch in pencil values to show color.

Problem 3. Find scraps of cloth of different colors, some bright and others dark, as scarlet, light green, dark blue, orange, etc. Pin or paste these to a piece of paper, and show below each sample what value would represent it. Use pencil painting.

Problem 4. Make a group of two vegetables that look well together—both in size and color. Paint in water-color or draw with colored crayon.

Problem 5. Draw a glass and a lemon or any other group that shows a smooth and a rough surface, and try to express these qualities in your drawing.

Problem 6. Plan six groups of two members each. Write the names of the objects you would choose for each group.

Problem 7. Draw an oblong of 4 by 6 inches. In this space draw a group of two objects, trying to balance the spaces used in the drawing with that left as background.

Problem 8. Copy in pencil painting the groups of onions from page 47, showing by values the difference in color.

Problem 9. Find the sketch of the gray and blue mug on page 44. Imagine this mug blue on the inside and on the lower part of the outside, with gray on the upper part. Express this in values.



THE WAY THINGS VANISH.

Across the flowing river,
 On a pretty little hill,
 There rests a little city,
 And a busy little mill.

I am sure that in the little streets
 A tiny people walk;
 I am sure that everything is neat,
 And small and clean as chalk.

And everything that goes that way
 Doth small and smaller grow;
 The people on the long curved bridge,
 The boats that move so slow.

And some day I will go there, too,
 And live in a tiny house;
 And own perhaps a little horse
 No bigger than a mouse.

But not for sometime yet; because
 A small child went from here,
 And ere she'd reached the other side
 I saw her disappear.

Elizabeth Chase.

The Real and the Apparent.

Catching the Sunlight. When you were a little child rays of sunshine seemed to you like great bars of gold. You put out your hand to catch them, and then you found that there was nothing to catch. Your hands passed through the golden ray. You could not understand why something that seemed so real could not be caught.

Appearances Deceive Us. As you grow older you learn that many things beside the sunbeams are not what they seem. This old earth of ours seems flat, and yet we know that it is really like a huge ball. The stars seem like tiny specks of silver, but they are great worlds as large as ours. Distant hills look blue, although they may be covered with grass as green as that at our feet.

Things that you Draw. It is the same way with things that you try to draw. They seldom appear as they really are. The lessons in "Out of Doors" plainly show this. Objects that are far away seem very much smaller than those that are near (pages 9 and 12). A fly on the window-pane seems larger than a horse in the distance. A penny held close to the eye will cover the entire surface of the sun.

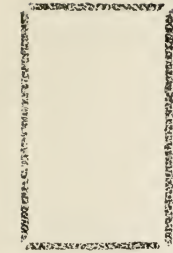
Effects of Distance and Position. You have found, too, that distant objects seemed fainter than those which are close at hand (page 8); while in drawing flowers, leaves and animals you found that the shapes of things seemed different in different positions.

Some Queer Pictures. What strange pictures an artist would make were he to paint things as he knew them to be instead of as they appeared! Suppose, in painting an evening picture, he should say: "Those trees look almost black against the sky, but as they are really green I shall paint them green"; or, when sketching a house, he might say: "I can only see two sides of that house, but as there are really four I shall draw them all"; or, in drawing a little station with the railway tracks disappearing in the distance, he might say: "As I look down the tracks, the rails seem to come together, but as they must always be the same distance apart I shall draw them so"; then his moonlight picture would look like midday, his house would seem to be made of glass, and his railway tracks would stand up in the air like step-ladders.

Picturing Things as they Appear. An artist tries to draw things as they appear to be. The lessons in this chapter will help you, not only to see, but to tell truthfully with your pencil or brush just what you see.

Drawing the Cylinder.

We are glad to know people who can tell us interesting things, and the wooden models are like such people, for one can learn much from them. If you understand how to represent the cylinder in different positions, you will be able to draw many other objects — such as tumblers and pails, smokestacks, steeples and towers.

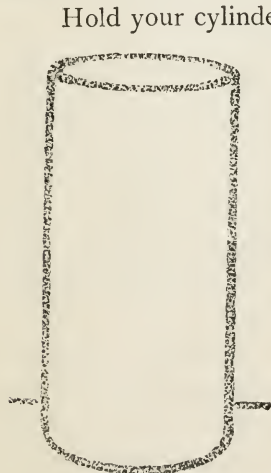


You remember that when you sketched from the pose, a few lines brought out the proportion and action of your model.

So, in the case of the cylinder, a few lines will show its proportion and tell whether it is lying or standing.



The flat faces of the cylinder do not always look like circles. Hold the cylinder so that the top makes a narrow shape like the first ellipse, then a little wider shape like the second, and then a still wider one like the third. Do you raise or lower the cylinder to make the top appear wider? Place your pencil across the front edge as the girl in the picture is doing, and you will see how the edge seems to curve.



Hold your cylinder upright so that its bottom face is directly opposite the eye. Be sure that the top and bottom faces are absolutely level. With your pencil, test the appearance of the lower face. It will appear as a horizontal line. Raise the cylinder two inches. You can no longer cover the lower face with a horizontal pencil. Raise the cylinder two inches more. What has happened to the apparent width of the ellipse from front to back?

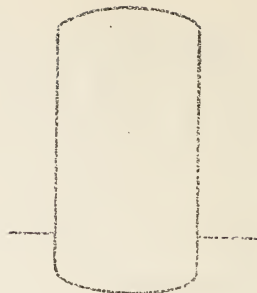


Make sketches from the

cylinder, showing the appearance of the model when placed below and when held above the eye.



OLD STONE MILL, NEWPORT.



Finding an Interesting Position.

This view of the cylinder differs from those on page 53. Hold your cylinder so that its edges appear to curve like these. Then look at the picture of the Old Stone Mill. Was the artist above the tower looking down on it, or was he standing on the ground when he took the picture?

Notice the direction of lines in the dome of the Pantheon on page 59.

Study and draw some round tower that you often see.

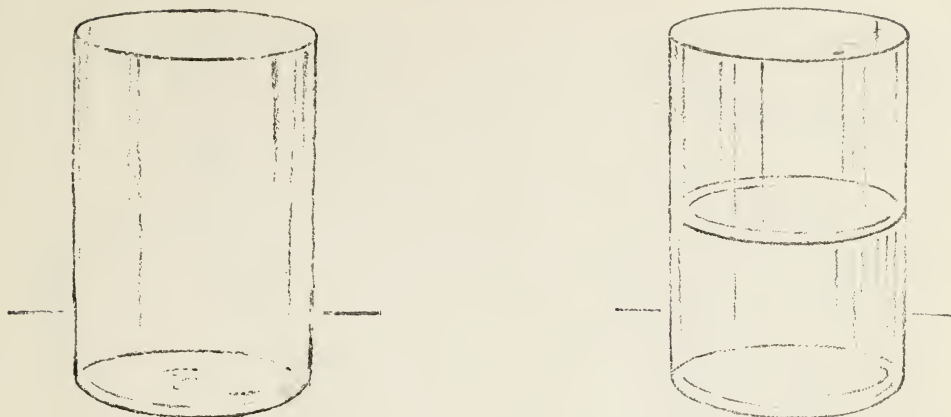
In taking your picture, the photographer poses you in several positions in order to select the best one. He might photograph the back of your head, but he chooses a more interesting view. The upper sketch in the lower left corner shows how the hemisphere looks when it is held directly under the eye. The semicircle shows the outline seen when the hemisphere is held directly opposite the eye. Neither of these positions would be chosen, however, in drawing its picture. The third sketch gives a much better idea of the same model.



Many objects are shaped like the hemisphere. Study a bowl or half of an apple at several different levels below the eye. In which position does the ellipse seen at the top present the most pleasing proportions? Draw in outline the position showing this.



Relative Direction of Circular Edges.



Here are some more members of the cylinder family. In spite of their fine polish they are very like their plain cousin, the wooden cylinder. Still, there are some things which you can study more easily in the glass cylinder than in the wooden model.

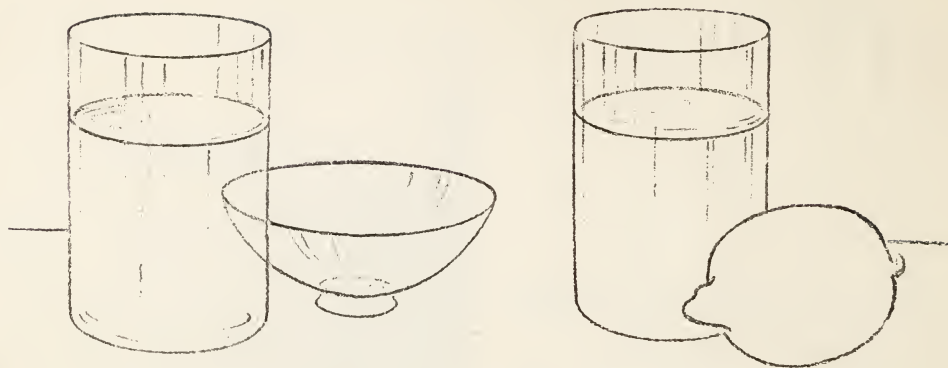
Why is it, for instance, that the bottom ellipse of the tumbler seems to be wider than the top one? If the tumbler should be lifted a little, what would happen to the width of the two ellipses? Try it and see. If you hold the tumbler so that the top is opposite the level of the eye, what would be the appearance of the upper edge? How will the bottom of the tumbler look? Sketch a tumbler in this position.

(In sketching cylindric objects below the eye, the lower edge will always seem to curve more than the upper one.) Can you tell why? In the half filled glass, notice the different widths of the three ellipses. (If you should fill the glass three-quarters full, what would happen to the width of the middle ellipse? Would it become wider or narrower?)

When you draw tumblers, study carefully the placing of the table-line. Notice where it appears to cross the tumbler, and observe that it seems to change its position, becoming higher if you settle down in your chair, and lower if you straighten up.

Study and draw empty glasses and those having water in them. Make outline drawings.

Grouping Objects.



You have studied the shapes of objects and the apparent direction of their edges. In sketching a group of objects there is another important thing to study—the relative position of the objects. One object may be nearer than another, or in front of it. Then the sketch must truthfully show these positions.

In the drawing of the lemon and the tumbler, the lemon hides part of the tumbler, so we know that the glass is behind the fruit. In the other sketch, both bowl and tumbler are of glass and neither hides the other, yet we know which one is in front and which behind. This would be as easily seen were we to cover all the sketch except the parts resting on the table, for the nearer object is drawn farther below the table-line than the more distant one. Had both objects been drawn on the same level, it would appear as though part of the bowl were inside the tumbler, and as though the lemon were fastened to the glass.

When we show near and far effects in a picture, we say that the picture expresses distance. You know how to place trees in a landscape so that one will appear nearer to the observer than another. In a group, the same laws are observed. We can place objects in the foreground, in middle distance, or in the background, if we carefully study their relations to each other and locate them correctly in the picture. When arranging a group, you should avoid placing two objects at the same distance from the table-line.

Draw a simple group of two objects. Study the placing of the table-line. Show which object is nearer.

Painting Cylindric Objects.

You have already learned how to test the apparent direction of an edge when you hold the object in your hand, as the girl in the picture on page 53 is doing. (The same test may be used even if the object be too far away or too large to handle. By closing one eye and holding the pencil out in front of you, so that it seems to rest on the edge of the object, you can see whether the edges curve upward or downward.

Can you tell by looking at the sketches



on this page which lantern hung above the artist's eye, and which below? Why does the upper edge of the green lantern curve more than the lower one?

Notice how clear and fresh the colors are! They would not have been so if the colors had been worked too much.

Make a sketch of a Japanese lantern above the eye, and then of one below, using water-color or colored crayon. First sketch some very faint lines to show the shape of the lanterns and the curve of their edges.

One of the World's Beautiful Buildings.

Why it was Built. Many years ago, King Louis XVth of France was ill and vowed that if he were restored to health, he would rebuild the old church of St. Genevieve which was falling to pieces. The king recovered. Then he sent for an architect named Soufflot (Sö-flō), and told him to draw up plans for the new church. Soufflot had just returned from studying the great buildings of Italy and he thought: "Now I can design for Paris a grand church like those I have seen in Rome." The beautiful building which you see on the opposite page was the result.

How it was Named. It took many years to build the church, and the king and the architect died before it was finished. Then it was decided that the building be used, not as a church, but as a monument to the great men of France. So they called it the Pantheon, meaning the place of the heroes. The highest tribute that can be paid to a French general or statesman, scientist or artist, is to lay his body at rest in the Pantheon.

The Exterior. The building stands in one of the highest parts of the city. Eleven steps lead up from the pavement to the portico, which is formed by great fluted columns. Each column is over eighty feet tall. Above the columns is a pediment containing a sculptured group. If you look closely you can see France, the figure in the center, bestowing wreaths of honor upon her heroes. Beneath in great letters is an inscription which says: "The mother country honors her great men." From the portico three large bronze doors lead into the building.

The Dome. The Pantheon is built like a huge cross, and just where the arms meet, the great dome rises. Its top is about 300 feet from the ground, and you would have to climb many steps to reach it. It would take 139 steps to reach the roof, 192 more to get above the pillared cylinder or drum that supports the dome, while if you wished to go all the way to the lantern that surmounts the dome, there would be 94 steps more. From the lantern there is a fine view of the surrounding country.

Paintings in the Pantheon. Inside the Pantheon there are a great many very interesting works of art. On the walls and in the dome there are paintings by some of the greatest French artists. The pictures are painted on canvas which is fastened to the wall. They represent the heroes and kings of France and their great deeds.



PANTHEON, PARIS.

Problems for Review or for Home Work.

Problem 1. Draw a tumbler about one-third full of water.

Problem 2. Write a list of as many cylindrical objects as you can think of.

Problem 3. Draw a cylindrical object below the eye. A barrel or a drum makes a good model.

Problem 4. Group a dipper and a pail, placing one slightly in front of the other. Sketch them in pencil outline, trying to show their relative positions.

Problem 5. Hang a pail above the level of the eye and study carefully the direction of its edges, and of the lines or hoops around it. Sketch in pencil outline.

Problem 6. Bring to school a photograph or picture, from some book or paper, representing a dome or round tower. Make an outline sketch of the picture, and show plainly the direction of the edges.

Problem 7. Place half of an apple slightly in front of a tumbler, the curved face of the apple resting on the table. Sketch the group in outline. Then place the apple back of the tumbler, so that a part of its outline is hidden by the tumbler. Sketch in this position.

Problem 8. Arrange two Japanese lanterns either above or below the eye. Use a finder to select an interesting arrangement for a picture. Draw, with brush and color, an enclosure, and paint the lanterns within it, working quickly and freely.

Problem 9. Illustrate, in a pencil sketch of three values, the last two lines of the following stanza :

“I stood on the bridge at midnight,
As the clocks were striking the hour,
And the moon rose o’er the city,
Behind the dark church-tower.”

LONGFELLOW.

MEASURING AND PLANNING



SO WORK THE HONEY
BEES;
CREATURES THAT BY RULE
IN NATURE TEACH
THE ACT OF ORDER TO A
PEOPLED KINGDOM.

SHAKSPERE; HENRY V., ACT 1, SCENE 3.

Careful Planning.

The Plan of a House. Have you ever thought how much planning is necessary in building a house? First the architect works for days or weeks over his drawings. The building must be adjusted to the lot upon which it is to stand. It must have beautiful proportions. Its porches, windows and chimneys must be neither too large nor too small. The plans must be very exact, as a small mistake might cause much trouble in the work of construction.

The Builder's First Task. When the architect's plan is completed, the builder takes some cord and with it he makes the outline of the foundation. Wherever there is to be an angle or corner he drives a stake. Then he stretches the cord from stake to stake, making a little fence or outline which shows the shape of the ground-plan. The distances are very carefully measured that they may correspond exactly with the plans of the architect. Then the cellar is dug along the builder's lines.

The Plans and the Work. After that the masons are set at work, and as they lay the foundations and build the walls, measurements are constantly taken. The work must be kept true. The carpenters, also, must use the quiet ruler fully as much as the noisy hammer and saw.

Building by Guess. Suppose the architects, masons and carpenters should say: "We are tired of measuring and planning—let us guess at things after this." Imagine what would happen! A town built without measurement would look as though it had been visited by a tornado or an earthquake. The walls, roofs and chimneys of the houses would all be awry. The doors and windows would not fit their frames. The houses would be unfit to live in, and unpleasant to look at. A most uncomfortable world this would be, were measuring and planning to go out of use.

The Necessity of Planning. Many people beside builders find careful measurements and plans absolutely necessary in their work. The tailor and the dressmaker must measure and plan and make patterns for every garment they wish to make. The designer of wall-paper must arrange his spaces with great accuracy. The cabinet-maker must plan beautiful proportions in his furniture, and must see that all of the parts are rightly adjusted.

The Beauty of Good Work. The lessons in this chapter will help you to become an accurate worker, but all the books ever written cannot do this unless you help yourself. The ability to do careful, honest work is something of which any one may well feel proud.

Ratio.

When we speak of the proportions of an object, we do not mean its size, but the relations of its different measurements or dimensions to each other. For instance, a tiny pea, an orange and the great round world are very different in size, yet they have the same proportions. A ten-acre lot may have the same proportions as a postage-stamp. They would be so different in size that it would be hard to think of their having anything in common, yet their shapes might be exactly alike.

In comparing two dimensions of the same object, or the same dimensions of two different objects, we speak of the ratio of one dimension to another. By this we mean the proportionate length of one measurement to another. The boy in the picture has in his hand a square prism that is two inches high and four inches long. He might say that the prism is half as high as it is long; or he could express the same idea by saying that the ratio of its height to its length is as 2 to 4. But he might measure a much larger prism in which these dimensions have the same ratio. Instead of giving the number of inches, he might say that the ratio between the height and length of all prisms that are half as high as they are long is as 1 to 2. The same is true of all objects in which one dimension is half as great as another—that these dimensions have a ratio of 1 : 2.

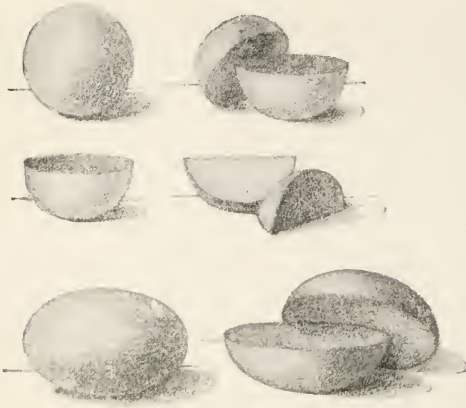
We might model from clay a cylinder that measured one inch in width and three inches in height. The ratio of these dimensions would be 1 : 3. Another cylinder two inches wide and six inches high, would have precisely the same ratio of dimensions, and the expression would be the same—1 : 3. In other words, in all objects in which one dimension is one-third as great as another, these dimensions have a ratio of 1 : 3.

What is the ratio between the length and height of the wall of a building measuring thirty feet long and sixty feet high? Of one measuring twenty feet long by forty feet high? What would be the ratio between the height of a baby two feet tall and that of its father six feet tall?

Draw three oblongs of different sizes, the ratio of the dimensions of each oblong being 1 : 3.



Proportions of Objects with Curved Surfaces.



Model from clay a sphere, an ellipsoid and a cylinder. You cannot accurately measure their curved surfaces with a ruler. Some other way of measuring for their proportions must be found. Cut your sphere into two equal parts or hemispheres. You have now a flat, circular face upon

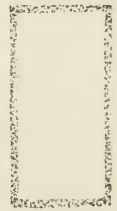


ruler. Cut one of your hemispheres into halves. You have now two flat faces upon which you can measure with your ruler to find the exact height and width of the hemisphere.

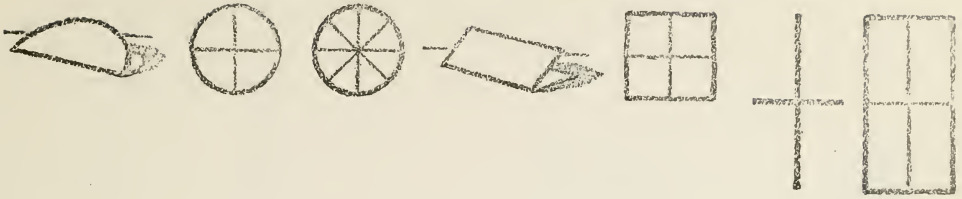
By measuring these flat surfaces with your ruler, you find that the height and the width of the sphere are exactly the same. You find also that the hemisphere is just half the height of the sphere. When the dimensions of an object are equal, as in the sphere, the cube, the circle and the square, the ratio of these dimensions is said to be 1 : 1. How would you express the ratio of the sphere to one of its halves? To one of its fourths?

Bisect the ellipsoid and the cylinder, to find flat faces which will give you all the measurements of the solids. Both of these solids can be bisected in such a way as to show flat circular faces. This would not answer your purpose.

The flat face found in each bisection should form a shape expressing the proportions of the solid. Draw the shape that you found by bisecting the sphere. What is its name? Draw the shape that expresses the proportions of the ellipsoid. What is its name? Draw the shape that shows the proportions of the cylinder.



Diameters and Diagonals.



Cut a paper circle and fold it through the center. This fold forms a diameter. Open the paper and crease it again so that the second fold bisects the first fold, and you have made another diameter. You might now fold diameters across these, and, in fact, you might fold so many diameters that your circle resembled a wheel with its spokes. The creases would all have the same length, for the diameters of a circle are all equal.

Fold a square, edge to edge, and the crease will make a diameter. Fold the opposite edges together and you will have another diameter of the same length. A circle has any number of diameters. How many has a square?

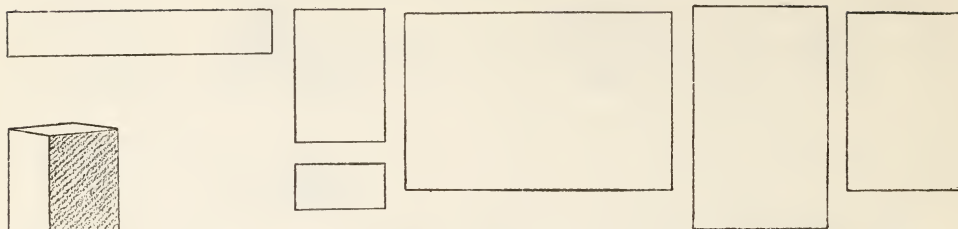
Fold the short edges of an oblong together and then the long edges. You have made the two diameters of an oblong. They are not equal in length, as were those of the square. One is called the long and the other the short diameter.

There are two other lines upon which you can fold a square into two equal parts so that one half will exactly cover all of the other half. These lines are called diagonals. When you fold an oblong upon either of its diagonals you divide the oblong into equal parts, but do the parts fit one another as did those of the square? Try it. Are the diagonals the same length as the diameters?

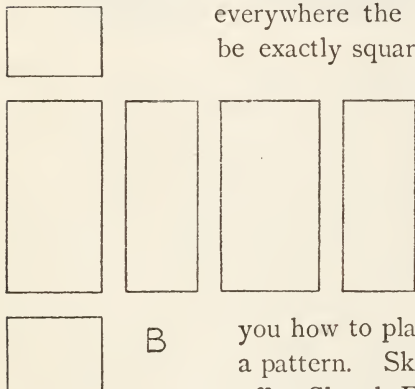
Draw two diameters whose ratio is $1 : 2$, and build upon them an oblong. Make another oblong upon diameters whose ratio is $2 : 3$. Draw an ellipse upon diameters whose ratio is $2 : 3$.



Laying out Surfaces by Actual Measure.

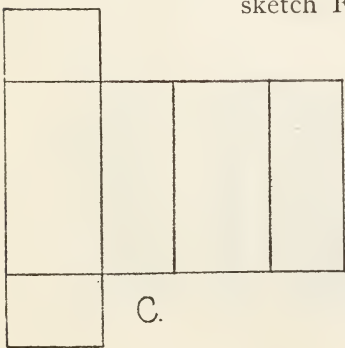


Any surface having four square corners is a rectangle. A rectangle may be square or oblong. One must measure very carefully in drawing rectangles, for the opposite sides must be everywhere the same distance apart, or the corners will not be exactly square. Measure with your ruler the rectangles at the top of this page, and draw others having the same dimensions.

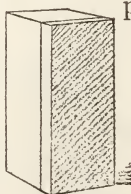


B

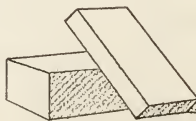
In sketch B you see six rectangles, found by measuring all the shapes found on a prism with oblong faces. If you should cut these rectangles out, you would have the faces necessary in making a hollow prism. Sketch C shows you how to plan the rectangles, so that you could really fold a pattern. Sketch D shows a prism with one section marked off. Sketch E shows the two prisms obtained by cutting the section shown in sketch D. Do you know what is shown in sketch F? Measure and draw all the faces found on the square prism you have. Plan them so that they could be cut in one piece, folding on the lines to form a hollow square prism.



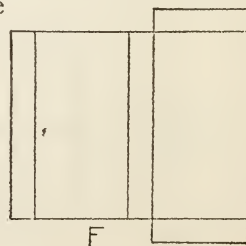
C.



D

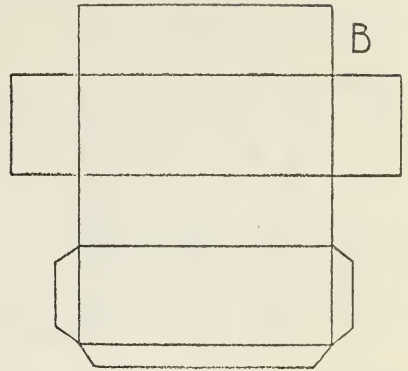
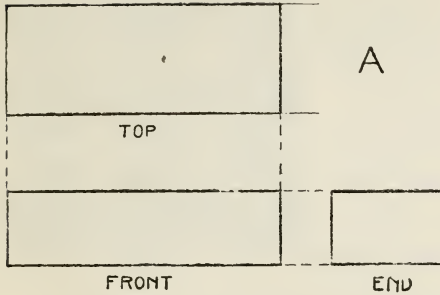


E



F

Making Patterns and Planning Boxes.



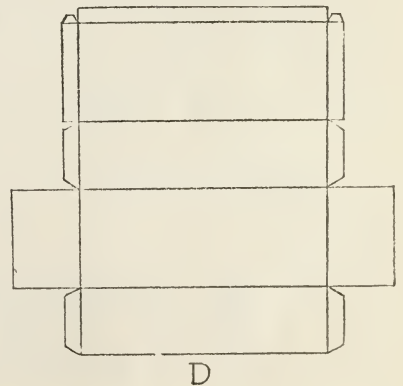
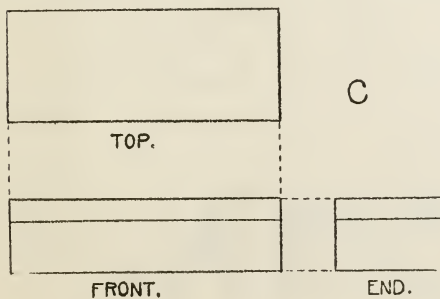
You have learned how to measure all the faces of a prism. You also know how to make drawings showing the measurements of the whole surface (see sketches B and C, page 66).

Sketch A on this page shows you the shapes of the top, front and end of a prism. Suppose it to be $5\frac{1}{2}$ inches long, 2 inches wide and $1\frac{1}{2}$ inches high. Make a drawing showing the exact size of the whole surface. Add laps, as in sketch B, to form a pattern that can be pasted together.

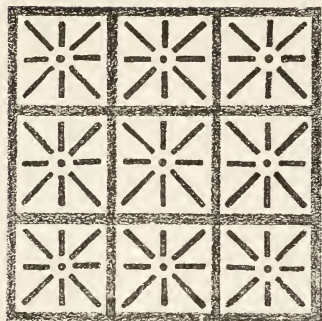
Sketch C shows the top, front and end shapes of a box having the same dimensions as the prism, and sketch D shows the pattern for such a box.

Plan a box having suitable dimensions for holding pencils. Develop its pattern, drawing laps for pasting. The box might be made of light cardboard or heavy tinted paper. Whatever the material, the work must be neatly done.

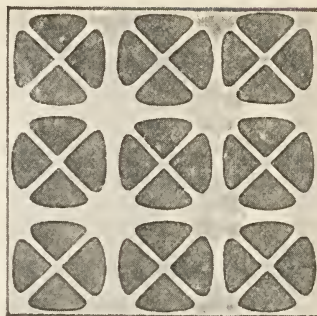
Draw the pattern for a very small box, suitable for holding stamps or pens.



How to Plan for a Surface Decoration.



By repeating a definite shape over and over so as to cover a surface, we get a surface decoration, as in wall-papers, carpets and figured cloth designs. A design so repeated forms an "all-over" pattern. The shape repeated is called



a unit. In the sketches on this page you can easily see how the unit is repeated to form an all-over pattern.

There is something that adds as much beauty to an all-over pattern as the shape or color of the unit, and that is the even spacing. In planning a surface covering, the units are drawn exactly the same distance apart. Can you imagine how strange a wall-paper would look if the units were not evenly spaced? Some parts of the paper might look crowded with shapes, while other parts might appear empty.

In planning his surface covering the designer thinks first of some shape or unit which he wishes to repeat. After deciding how far apart these units should be to look well, he measures the surface with as much exactness as though he were working on the plan for a house. Sometimes these plan lines form the decorations themselves, as in the case of checks in gingham or silks. Again, the plan lines may form part of the pattern, as in the left sketch at the top of this page. At other times the lines are drawn very faintly, and after being used to place the units evenly they are erased. You see an all-over pattern of this kind in the upper right sketch.

Find and bring to school scraps of cloth or paper in which the design is planned on squares, and in which the construction lines do not show. Measure and draw two 4-inch squares with their diameters. Plan a unit to be repeated four times in one of the squares, using a simple brush stroke design, and keeping the sides of the small squares as part of the pattern. For the other 4-inch square plan a simple shape that may be placed in the small squares, without using their sides as part of the pattern.

1 ABCDEFGHIJKLMNOP
NOPQRSTUVWXYZ

2 ABCDEHJKLM

3 MNOPRS

4 234567890

5 THEY MIGHT NOT NEED ME YET THEY MIGHT!
I'LL LET MY HEART BE JUST IN SIGHT;
A SMILE SO SMALL AS MINE MIGHT BE
PRECISELY THEIR NECESSITY.

EMILY DICKINSON

5 ABCDEH

To Plan and Draw Letters.

A Useful Art. Letters are of many styles and their proportions may vary greatly, but there are rules which govern their form and construction. To be able to letter well is worth much care and study.

The Standard. In planning the first alphabet on page 69 a ratio of 2 : 3 was chosen. Then a rectangle, which may be called the standard for this particular alphabet, was drawn, with its dimensions in this ratio. All but three letters of the alphabet have the same width as the standard—M and W are $\frac{1}{4}$ wider, while I is only $\frac{1}{2}$ as wide.

Planning an Alphabet. Using a ruler and a sharp pointed pencil, draw a standard rectangle, and continue the horizontal lines across the page. Trisect the space between by horizontal lines. Set off on the upper horizontal, spaces for the width of each letter, planning spaces between the letters $\frac{1}{4}$ the width of the standard. Through these points draw vertical lines. If you use a visiting card for a straight edge or ruler, you will be able to keep all corners square. Study the first alphabet, and see how the trisecting horizontals help in drawing many of the letters. For which letters are they necessary? All construction lines should be very light, as they must not show in the finished work.

Making the Letters. Sketch your letters lightly within the spaces planned for them. When the shapes seem correct, darken the lines with brush and ink, or pencil. Be sure that all the letters are of the same width of line.






Printing Titles. In printing titles or quotations the same careful measurements are necessary. Practice first on another sheet. Then, having selected the size of the letters best suited to the space, draw your construction lines. The space between the words should be $1\frac{1}{4}$ the width of the chosen standard, although this rule may be changed if necessary.

A Good Example. Diagram 5 shows the plan for one line of the quotation. In the first word, all the letters are of standard width. Then comes the wide space between the words. The next letter, M, is $1\frac{1}{4}$ times the width of the standard. The letter following is $\frac{1}{2}$ the standard width. All spaces should be planned before any letters are drawn. The construction lines are left in the upper lines of the verse so that you can see how each letter fits into its place.

An Exception. In the first word of the last line of the quotation, the space between L and Y is a little narrower than the spaces between the other words. Owing to the construction of these two letters, the space between them would have been too large if the same rule had been followed.



DESIGN.

PAINTED MANY SHAPES AND
 FIGURES  WONDERFUL
 AND MYSTIC FIGURES  AND
 EACH FIGURE HAD A MEAN
 ING  EACH SOME
 WORD OR THOUGHT SUGGEST
 ED  

Finding and Making Beauty.

The Honey-Bee. You have often watched the honey-bee as he visits flower after flower along the roadside or in the garden. Sometimes he lights upon a thistle, sometimes on a head of clover, and sometimes he buries himself in the heart of a rose. He is gathering the sweet essence of flowers, from which honey is made.

Gathering Material. In some ways you are like the honey-bee. You have been gathering material from which can be made something better than honey. Just as the bee finds pleasure in its visits to the flowers, so you have enjoyed what you have studied. You have found much that is interesting to think about, and your eyes are becoming trained to see things that you never noticed before.

Making the Honey. The bee takes his flower food home and converts it into honey which he packs away in his storehouse for food in the long winter months. What you have gathered in all the lessons before this, will become of greatest value only when you bring it from the storehouse of your mind and use it.

Painting a Thought. The best pictures ever painted have been pictures of the beautiful thoughts of great artists, rather than pictures of what they have actually seen. In the Sistine Madonna, the great artist Raphael did not paint the portrait of any one he had ever seen. He painted his thought or ideal. But he never could have painted such a picture had he not spent years in studying his models and in practising to express truthfully the things that he did see.

Thinking of Beauty. An artist, then, is one who can draw not only what he sees, but also what he thinks about, and in this way he can make his thoughts apparent to others. Few people can be great artists, but all can think of something beautiful. Close your eyes and see again the rainbow, a beautiful bed of flowers, or the face of some one you love.

Expressing Original Ideas. The lessons in this chapter will help you to think of beauty that you may never have seen. It need not be the thought of a great landscape, a grand cathedral or a wonderful madonna. These thoughts only great genius can express. The exercises given will help you to plan or design simple objects that you see about you—the form of a vase, the proportion of a box, the decoration for a basket or handkerchief. But you will express original ideas, and great delight will come from the ability to create something beautiful yourself. This is better than drawing just what you see before you, or merely imitating what has already been expressed by others.

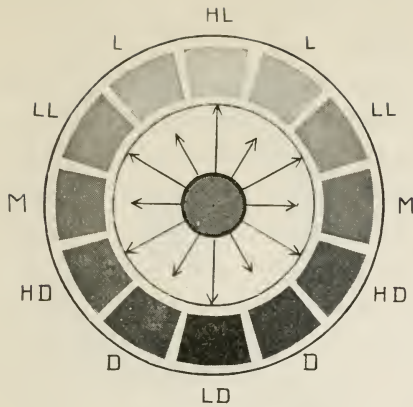


CHART D

Colors as Light and Dark.

Every color must have a certain value, just as every note in music must have a certain pitch. You can name the notes in the musical scale, but you have not thought that the different degrees of light and dark could be arranged in a similar way. On this page is a scale of nine values, beginning with white and passing by definite steps to black. Learn the names of these values so that you can repeat them in their order.

Chart D on this page is an exact picture in values of Chart A on page 75. Seven values are needed to represent the twelve colors in Chart A. You will see by Chart D that some of the colors have exactly the same values. For instance, yellow-orange and yellow-green are represented by the same value, Light (L). Find other pairs of colors that measure alike in value.

The darkest color, violet, is Low Dark (L D) in value, and the lightest color, yellow, is represented by High Light (H L). Do any other colors match yellow and violet in value?

White and black do not stand for any colors. They are therefore not needed in Chart D.

VALUE SCALE

WHITE
W

HIGH LIGHT
HL

LIGHT
L

LOW LIGHT
LL

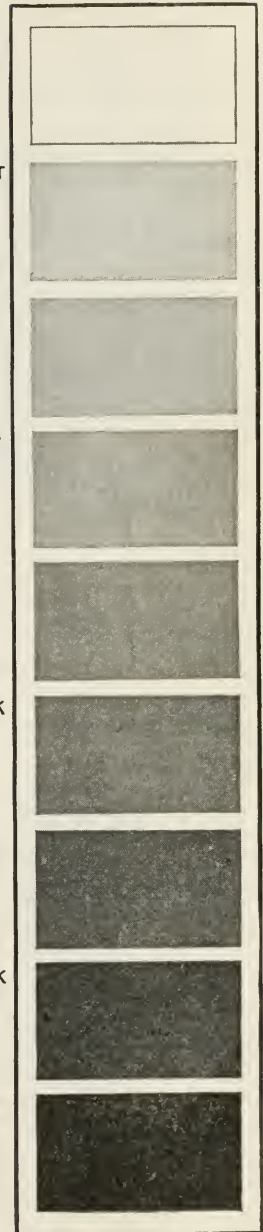
MIDDLE
M

HIGH DARK
HD

DARK
D

LOW DARK
LD

BLACK
B



Color Relations.

Nature's Arrangement of Colors. Nature scatters her colors about very freely, but occasionally she shows us in the rainbow an orderly arrangement of her bright hues. We cannot make a color chart as beautiful as the rainbow; but if the brightest colors we can get are placed in their proper order, it will be easier for us to mix and locate all the colors that we see about us.

The Color Chart. Look at Chart A on page 75. Yellow (Y) is at the top, and four steps below on the left is red (R). Between yellow and red are yellow-orange (Y O), orange (O) and red-orange (R O). These colors are made by mixing yellow and red in different proportions. Four steps from red is blue (B). Between these are red-violet (R V), violet (V) and blue-violet (B V), made by mixing red and blue in various quantities. Four steps from blue is yellow again. Between, are blue-green (B G), green (G) and yellow-green (Y G), made by mixing blue and yellow in varying proportions.

The Primary Colors. From yellow, red and blue, you see, are made all the other colors. For this reason, yellow, red and blue are called primary colors.

Light Colors and Dark. Look again at the circle and you will see that some of the colors are lighter than others. Yellow is the lightest and violet the darkest. If the colors from yellow to red-violet are placed on the left side of the value scale, and the colors from yellow-green to violet on the right side, another chart will result, which will be of great use. From Chart B you can learn the neutral value of any color in Chart A.

Full and Half Intensity. All colors are not as bright as those in Chart A. By far the greater number of colors about us are grayed. Therefore, in Chart B, between the full brightness or intensity of each color and its neutral value, is the same color grayed. These grayed colors are said to be in half intensity. By these scales we can locate any color about us, as to its full or half intensity, or its neutral value.

Tints and Shades. We have still another arrangement of colors in Chart C. We know that we can make a lighter and a darker red than that found in the circle. The values of a color that are lighter than the value found in the circle are called tints. Those that are darker than this value are called shades. In Chart C we find that each tint and shade of a color has its corresponding value in the neutral scale.

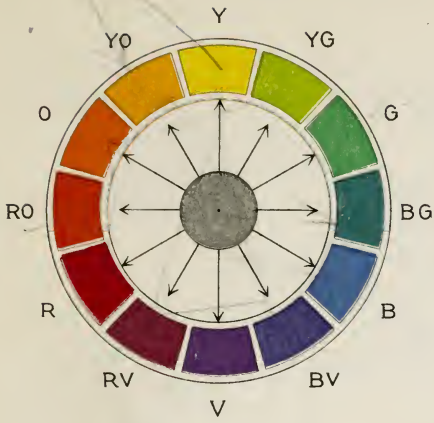


CHART - A



CHART - C

NEUTRAL VALUE SCALE.

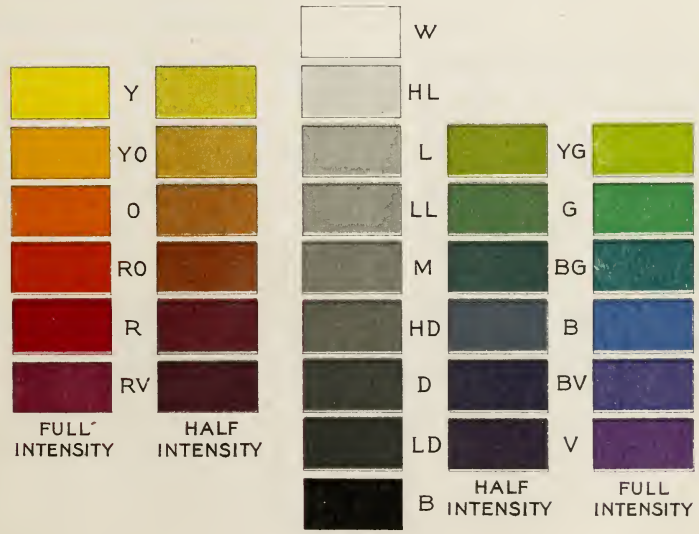


CHART - B

Complementary Colors.

Colors are like Music. Colors, like tones in music, may produce harmony or discord when used together. The most perfect color harmonies occur in nature, and there are certain colors so frequently found together that we have come to think of them as companions or friends. They contrast strongly, but together they form a sort of harmony, just as two notes of an octave accent each other when struck at the same time.

Complementary Colors. Colors which contrast most strongly and yet seem to enrich each other when combined are called complementaries. There are six pairs of complementary colors arranged in Chart A. Look at a color indicated by an arrow-head, as yellow, and then find the color directly opposite, as violet. The arrow-heads at the opposite ends of each diameter indicated, will point out the six pairs of complementary colors.

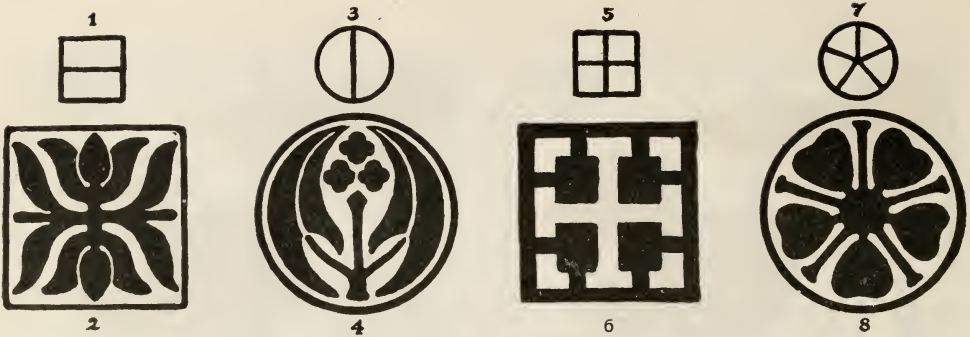
Nature's Use of Complementaries. The bluebird is all the more beautiful because of the orange color on his breast. Red apples or cherries nestling among the green leaves are most attractive in their coloring. Sometimes you see a yellow sunset sky, with distant hills or trees in violet masses against it.

How the Artist Uses Them. Although these color pairs furnish many suggestions for design, an artist seldom uses them in their full brightness or intensity. For instance, the warm bright colors of the nasturtium with its leaves are beautiful in the growing plant, or when they form a bright spot of color in a room; but if the nasturtium colors were used in full intensity for walls and carpet the effect would be far from pleasing.

Colors in Nature and in Art. Notice the designs on page 77. Poppies in the garden are bright scarlet and green, but if they were to be repeated in these intense colors over a wall surface, we would think the colors loud and harsh. By graying the colors in the poppy design, it becomes much more pleasing for use as a surface covering.

How Colors may be Grayed. Any color may be made less bright by adding a touch of its complementary. A little green blended with the scarlet made it grayish, while a bit of red added to the green leaves changed them to the softer gray-green. A small portion of the two colors (red and green) mixed with plenty of water made the delicate gray for the background. In the lower study violet is grayed by adding yellow, and yellow by adding violet. The gray background is a light wash of the two colors blended.





Balance as an Art Principle.

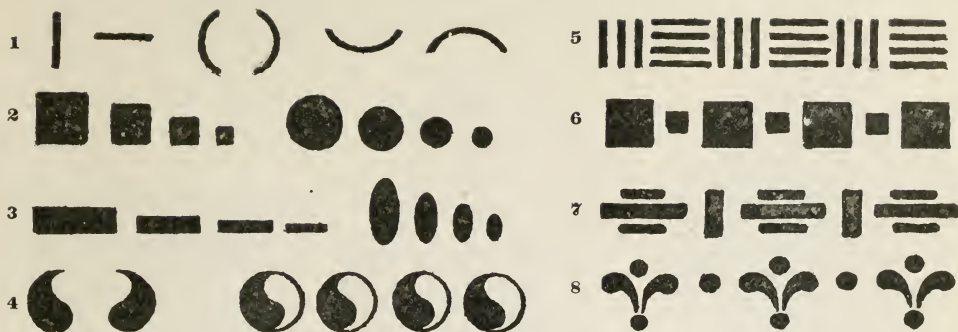
When you have played see-saw you have found that if you and your play-mate do not weigh the same, the ends of the board will not balance. Something must be done to secure equal weight at each end. The board must be pushed toward the lighter weight, or something heavy must be placed on the lighter end. Two or three children can balance another group of equal weight. A pound of tea on one side of the scales will balance the pound weight on the other.

Balance, however, does not refer to weight alone. It is the name of a great principle or law in design. In the figures on this page, notice that the designs have a number of large and small parts so arranged that a group on one side of the diameter, or axis, balances a group on the opposite side. In Figure 1 a square is divided by its horizontal axis. The parts above and below the axis are exactly alike. They balance perfectly. In Figure 2 the upper half has a pattern exactly like the lower half reversed. The design is therefore balanced as truly as is Figure 1. This kind of balance is also called symmetry.

In Figure 4, the arrangement of shapes on one side of the vertical axis is reversed on the other. This again gives balance. In Figure 6, the square is divided into four equal parts. The same design is drawn in each part. This makes a four-sided symmetry.

Shapes may also be balanced about a center, as in the petals of a flower. Figure 8 is an illustration. This kind of balance is also known as radiation.

Find and bring to school designs on cloth or on paper that balance in these four ways.

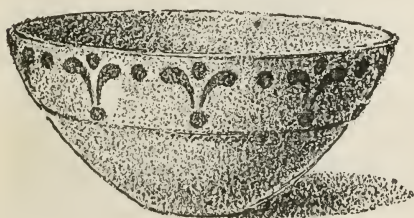


Rhythm.

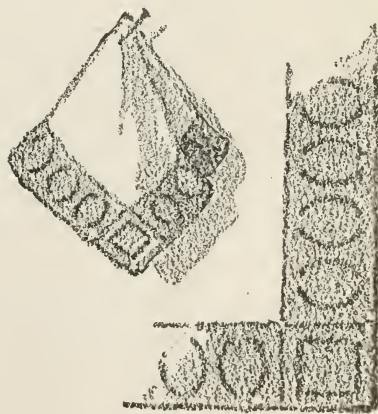
On this page you see a group of lines and shapes which suggest borders. You have often made borders for the decoration of simple objects. You did not know, then, that you were beginning to work out another one of the great laws that govern design. When a line or a shape is repeated at regular intervals, for the sake of creating a decoration, we have repetition, or one kind of rhythm. The line or shape repeated is called a unit. Sometimes we speak of the unit as a repeat. Figure 9 shows a group of large and small shapes balanced on a central line, and repeated to form a rhythm. Figure 10 shows a very simple rhythm made by repeating curved lines, to form a handkerchief border.

Look about you and find examples of rhythm in borders used to decorate an article of use or beauty. Sketch the units or repeats used in making the rhythms.

Using any of the units given in Figures 1, 3, 5 or 7, plan a border or rhythm which might be used in the decoration of a piece of linen, such as a table-cloth or a towel. Use pencil or colored crayons.

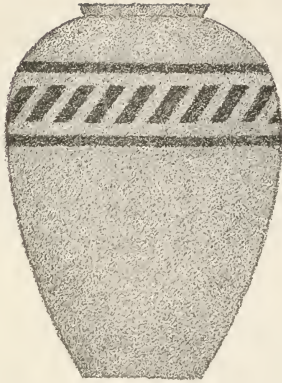


9



10

Balance and Rhythm in Simple Designs.



When you march to music, every step must mark the time and all the steps must be of equal length.

A line of children marching to music is something like a border of repeated units. The children march in rhythm if they mark the time of the music, step evenly, and keep at equal distances from each other. Irregular steps or uneven spaces would destroy the rhythm of the movement. In designing borders, the mere repetition of units is not enough. The spaces between the shapes must be so planned

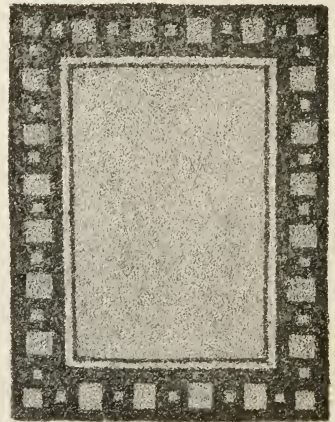
that they are as much a part of the border as the units themselves.

On this page, the border designed for the decoration of a vase would lose its beauty if the spaces between the repeats were doubled. The units would then appear to be falling away from each other. The broad lines placed above and below also help to hold them together,

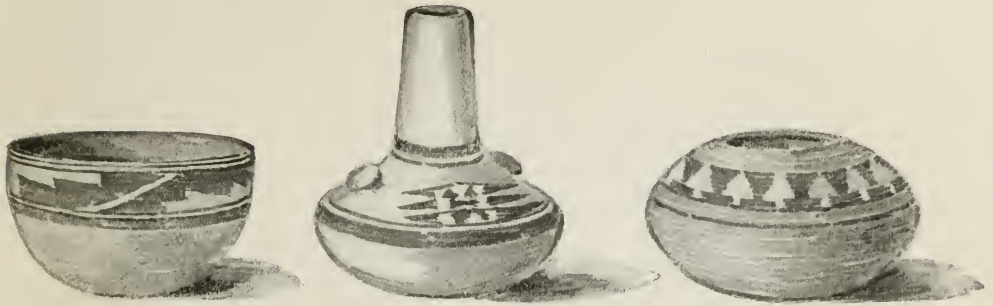
In the design for a rug, large and small squares are repeated to form a rhythm. The size of the squares and the spaces between them are so related that the border is carried around the rug in an unbroken movement.

In making a rhythm of shapes, one unit must always lead to or suggest another. The beauty of the rug border does not consist in the shapes of the squares, but in their relationship to each other and to the whole rug. If the border were but half as wide as is shown in the sketch, do you think it would suit a rug of this size? Suppose the width of the border in the vase were doubled, the size of the vase remaining the same. Would such a decoration be pleasing?

Cut a vase form of beautiful proportions and sketch upon it a rhythm of some simple shapes or lines. Cut an oblong of paper in suitable proportions for a rug. Sketch upon it a border of your own design.



Balance and Rhythm in Indian Pottery and Weaving.

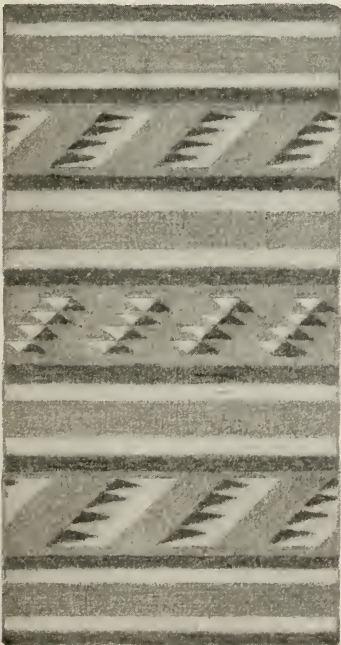


The art of the American Indians is like the art of all primitive people. Their decoration is a sort of picture-writing. The lines and shapes that are woven have a meaning. They are the Indian's story of a journey over the mountains, of a visit to a friendly tribe, or of some feast or ceremony.

Different tribes attach different meanings to the same forms. To some, circles connected by straight lines mean a number of villages united by ties of blood or friendship. To others, the same symbol means a chain of lakes and rivers. Even when we cannot read their symbols, we wonder what facts were recorded in this strange way.

Although the Indians never heard of balance, rhythm or harmony, they often work with true artistic feeling, as much of their handiwork plainly shows. The units repeated on the vase and the basket illustrated above are balanced on a central line. Rhythm, or related movement, is shown in the decorations of the bowl and the rug.

Plan a decoration for a vase or bowl, using a circle and three straight lines for the repeat. Plan a rug border, using a square and an oblong.



Color Schemes from Nature.

Years ago a traveller chanced to stay over night in a humble Boer cabin in South Africa. Picking up a handful of pebbles with which the children were playing, he saw that they were really diamonds in the rough. In a short time the great diamond mines of South Africa were opened. The jewels had always been there, and were only waiting for some one with eyes trained to see them.

One who loves beauty is like this traveller. He walks in the country or park and comes back with a collection of treasures. As he carefully turns them over and examines them, his friends may see only some stones, a bit of

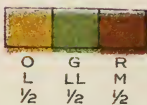
moss clinging to a piece of bark, a leaf, some seed-pods, and a feather. To the one who has gathered them, however, they are full of interest.

He has selected them because of their beautiful

color schemes, and he makes notes of these for future use. Then, though he may lose his pebbles and feathers, and though his moss and seed-pods may wither and dry, he still has material which will help him in his work.

On this page are some beautiful color schemes found in the oak leaf and the parrot's feather.

Find in something that grew out of doors a beautiful color scheme. Make a scale to show the colors. Save it for use in some future lesson.



Nature's Color Schemes Applied.

The color scheme of the oak leaf on page 82 is used in the upper design on this page. See if you can find in the rug the colors scaled from the leaf. Notice that the red was not so intense as we sometimes find it in autumn leaves, but was grayed by nature until it suggested the soft rich coloring so desirable in a rug. The green, too, was not the bright color of early springtime, but was also softened to perfect harmony with the red.

On page 78 you found several examples of balance in design. In the borders of the rug and the basket you can see another form of balance. Had the rug borders been three times as wide as they are, they would have been out of balance with the proportion of the rug, and the beauty of the whole would have been destroyed.

In the border on the basket is another illustration of a rhythm of shapes. In planning such a decoration, the shapes must be carefully spaced. If they are too far apart, the units will not look as though they belonged together. Each unit in a rhythm depends on its neighbor, like notes of music in a melody.

What color in the feather was left out in making a color scheme for the bowl? Using some color scheme you have found in nature, make a simple border suitable for decorating a basket, and one which might be woven in a rug.





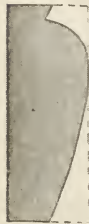
Designing Vase Forms.

In very ancient times people did not know how to make dishes. They used gourds and cocoanut shells, and flasks made of skin to hold and carry water. Then some one discovered that wet clay could be moulded into shape and dried in the sun. Baking or firing the clay forms was soon found to render them harder and more durable.

The first dishes made were rude and clumsy. Most of them were pointed on the bottom so that they could be thrust into the sand and thus keep their upright position. But the people soon learned how to make a vase or jar with a flat bottom. Little by little the clay forms began to grow more beautiful as well as more convenient.

Notice that the vases at the top of this page are all graceful in proportion and outline, although suited for different purposes. In designing any piece of pottery, fitness to its purpose is of first importance. A vase that tips over easily, a pitcher or tea-pot that does not pour well, or a cup from which one cannot comfortably drink, would be poor in design.

Bisect by folding on the short diameters, two sheets of practice paper 6 inches by 9 inches. Cut on the fold. You have four oblongs, each $4\frac{1}{2}$ inches by 6 inches. Fold each oblong on its long diameter. Using the folded edge as an axis, cut from each oblong the contour or outline of a vase form of your own design. Open the folds and study your designs carefully. Which proportion and shape do you like best?



Rope Modelling.

The American Indians have an interesting way of making pottery. You may have seen some of their jars and bowls, rough and irregular, but often beautiful in form and color.

The Indians are skilful basket makers. In modelling, the clay is handled very much as they use the coarse rushes in making baskets. The clay is rolled into short rope-like pieces, and coiled round and round until the form is completed.

The form may be shaped by turning a basket upside down and modelling upon it (Figure 1) or by modelling inside of a basket (Figure 2). The more skilful worker models with no basket to help him (Figure 3). Often the ropes are modelled



Fig. 1.



Fig. 2.

together so smoothly that one would never suspect that the form had been built up in this way.

You are to model after this method, starting your bowl as the boy in the picture is doing. After making a bowl with straight sides, you may model a flaring one, and one whose sides curve outward (Figures 4 and 5).

Press the clay ropes together as you wind, so that the bowl will be strong, and will not fall apart if fired.



Fig. 3.



Fig. 4.

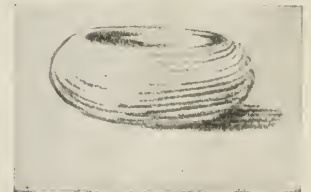


Fig. 5.



Making a Balanced Design.



WHEN a designer wishes to use a plant form for a motive, he studies its growth, flower, bud and leaf, and makes careful drawings of each part. Although, to suit his purpose, he may somewhat change the forms he finds in nature, he must keep in his design the growth of the plant. That is, his lily must not grow on a vine, his morning-glory on a stalk, or his dainty blue-bell on a clumsy twig.



Y ^O	B ^G	R ^O
L	M	M
1/2	1/2	1/2

Turn to page 91. The poppy leaf has been made to fit the oblong shape of the blotter, and the stems curve in graceful lines, yet the design still expresses the life and character of the plant.

On this page is a balanced design made from the lily. Instead of using the bright colors of the flower itself in the design, the artist chose from his note-book a quiet scheme which he had found in an autumn leaf.

Study a flower, and make from it a balanced design. Use a color scheme which you have saved for just such a purpose.



How to Mount Pictures.



DRAWING is greatly improved if it is given a background of suitable tint, and a proper margin. The lily design, shown on this page, looks much more attractive in its tasteful setting.

A drawing treated in this way could be used as a decorative outside sheet for a written exercise, or for a magazine or portfolio cover.

To mount a drawing or a picture well, careful attention must be given to several points. First, the color of the mount must be in harmony with the general tone of the picture, and should be very much grayed. Without calling attention to itself, the mount should furnish the best possible setting for the picture. A loud or glaring color in the mount would seem to say:

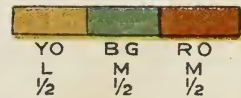
“Look at me! I am more important than the picture.”

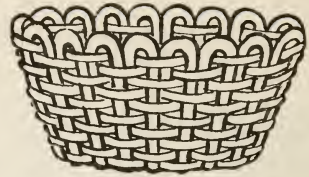
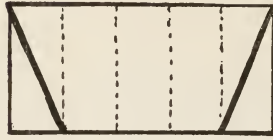
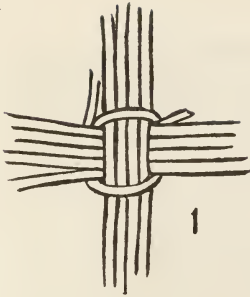
Then, the size and shape of the mount must correspond to the picture, and a margin of the most becoming width must be chosen. Last, but not least, the workmanship must be neat. Finger marks, ragged edges, and corners that are not square, will ruin the appearance of a beautiful design or picture.

You are to mount the design made from the flower or plant form. If you have no colored paper, you can tint practice paper with water-colors.

After deciding on the shape and size of your mount, measure and cut it very accurately. In pasting the design on the mount use only a touch of paste on the corners or along the upper edge. The tip of a wooden toothpick will hold all the paste necessary.

A calendar mount may be made by cutting two pieces of pasteboard of the required size. Cover each with cloth and overhand them together. A simple design might be mounted on such a background, together with the calendar for the year.



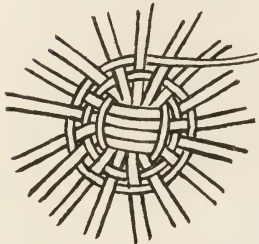


6

5

Making a Rattan Basket.

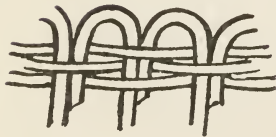
Select No. 3 rattan for the spokes of a basket and No. 2 for the weaver. Soak both in cold water for an hour, or until pliable but not too soft. Cut nine strips of No. 3, 15 inches long. Mark the center of each spoke. Place five of these spokes across four, so that their centers cross. The vertical spokes should be uppermost, or nearest the worker. Hold the cross firmly in your left hand, with the thumb on top. Place one end of the weaver back of the vertical spokes, along the horizontal spoke at the top, the long end toward the left. Bend the weaver back across the upper vertical spokes, down behind the right group of horizontal spokes, over the lower vertical spokes and behind the remaining group. If the cross is not held firmly in place repeat this binding. Then cut off one of the spokes close to the center, leaving seventeen spokes in all, as in Figure 1. Now separate the spokes evenly, and pass the weaver over and under the alternate spokes (Figure 2). To add another weaver, lap the ends on the side away from the worker and go on as before (Figure 3).



2



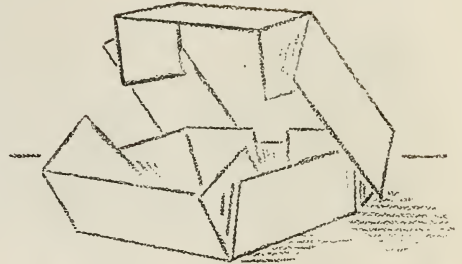
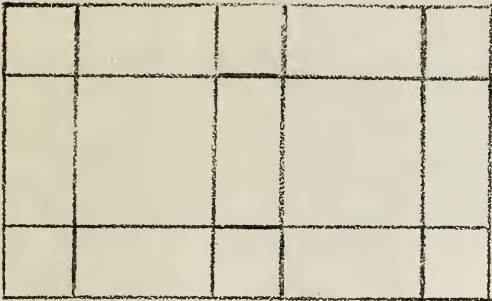
3



4

Keep the bottom of the basket very flat, and when you bend the spokes to form the sides, be careful not to break them. When you come to the top, bend each spoke over and tuck the end in by the side of the next spoke (Figure 4), forming the scallops for the edge. The end of the weaver is fastened in the same way. Dampen the rattan as you work to keep it pliable. Figure 6 shows how to plan a basket, so as to estimate the amount of rattan needed for the spokes.

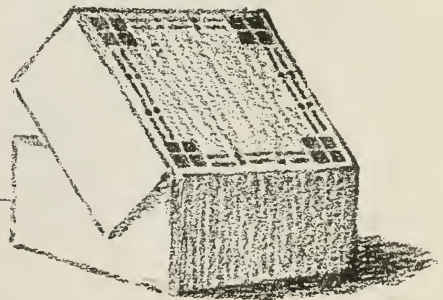
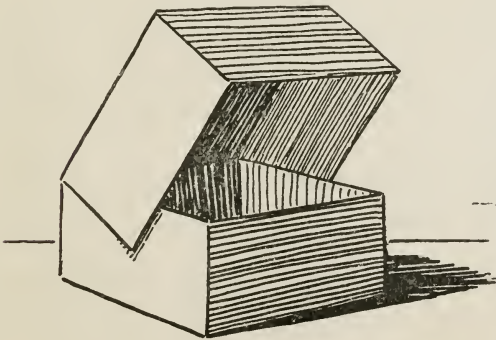
Making and Decorating a Box.



On page 67, you planned the dimensions of a box, and drew its pattern in two pieces. On this page is a one-piece pattern of a box to be made of paper. The upper sketches show the flat pattern, and the pattern cut and partly folded. The lower sketches show the box completed, and its cover decorated.

By making the dimensions two or three times those in the pattern, your box will be of a good size for holding pens, postage-stamps, pins, or collar buttons. Use a tough paper of medium weight, so that the box will be firm and strong. Measure and draw the pattern carefully, noticing where the lines are deepened. Crease well on every line, and cut on the heavy lines. Decorate the cover, using some simple border already designed, or planning a new one. Try to balance the decoration and the space on the cover. The border should not be weak nor too heavy.

Paste the laps on the inside. Be sure that your drawing, cutting and pasting are done in a neat and workmanlike manner.



SILK, SICILY, XVI CENT.

XVI. CENT.



Color Schemes from Textiles.

When we wish a color scheme to use in the decoration of some object, we can find suggestions in three different ways. We can make harmonious combinations by our knowledge of the color chart (page 75). We can turn to nature and find color harmonies in endless variety. Or, we can go for suggestions to the best works of art.

In olden times richly colored robes were worn by noblemen and princes. The cloth for these garments was woven by hand, and was often of exquisite beauty. Time has destroyed most of the relics of those days, but in many museums may still be found portions of these wonderful textiles. They have been carefully preserved because of their beauty of design and coloring.

On this page are exact copies of two textiles from Italy. They are over three hundred years old, and are from one of the best collections in the world. The scales below show the colors in the design. Can you find where each color was used?

Bring to school samples of cloth showing color harmony. Make scales showing the color schemes. Save them for future use.



BLOTTER



Applying Color Schemes in Designs.



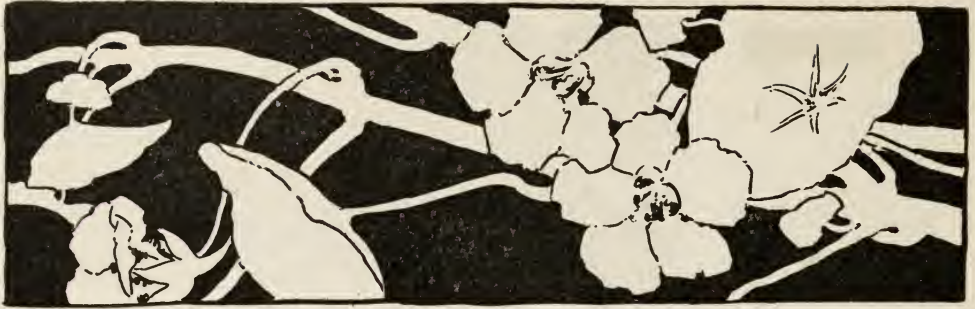
It is a good plan to keep a note-book in which can be placed any interesting color scheme you may find in nature or elsewhere. Then when you wish to color a design, you can turn to your note-book for ideas. The same color scheme may be used in many different ways. Those from the textiles on page 90 are used in the designs for the blotter and school-bag on this page.

In the blotter design, the whole color scheme from the textile is used. The blue-gray is a fine color for the stems, but if this color were used for the large leaf or flower, the design would look dark and heavy.

In the school-bag decoration, only three of the five colors from the textile scheme were used. If the lighter blue had been used in the balanced design, it would not have been so suitable for a bag planned for hard service.

Make a design for some simple article similar to those shown on this page. Apply a color scheme which you have found, or one selected from this book.





Beauty in Large and Small Measures.

How strange it would be if all trees grew to exactly the same height, if boys and girls were as large as their parents, and if each house in the town were the exact size of every other house! The world would not be as beautiful as it is now, for this contrast of large and small adds interest to what we see. Uniform shapes or sizes would seem very monotonous.

The great tree and the tiny bush or plant, the parents with their children, the village street with its houses of various sizes, all show contrast of large and small measures.

Out of doors this contrast is often produced by distance. The two trees in the sketch on page 12 may really be of the same size, but because one is far away it appears much smaller than the other. If both were drawn the same size, the picture would lose much of its beauty.

Beauty of large and small measures is also found in every plant and its flower. Sometimes the leaf is larger than the blossom, and sometimes the flower is larger than the leaf. Look through the pages on "Out of Doors," and on "Growth, Blossom, Fruit," to find contrast of large and small measures.

The illustration on this page shows this kind of beauty in the large flowers and leaves, the small stems, and the large and small spaces in the background. The design is balanced in this way, for the great number of small measures balance the few larger ones, just as a number of small children on one end of a teeter board might balance a very large boy on the other.

Select with a finder a part of some spray or branch that shows a pleasing arrangement of large and small measures. Sketch in light outline and finish in two values, using ink or water-color.

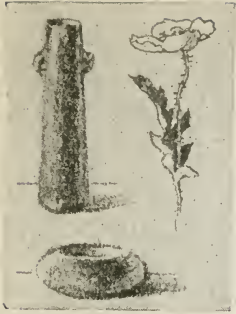


Fig. 1.



Fig. 2.

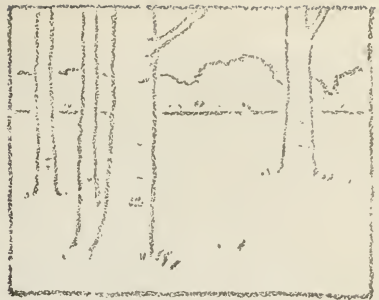


Fig. 3.

Vertical and Horizontal Effects.

Objects are characterized by certain proportions that they possess, just as we speak of people as being tall or short, slender or thick-set. For example, trees are erect in their growth and position, and plants as a rule are up-springing. The vase in the illustration is tall, and the poppy growth is upright. They are like the vertical line.

Again, many things that we see are flat and wide like a lake or a meadow, a bowl, or the top of a table. These are like horizontal lines in their character.

Vertical and horizontal effects are often used in making a picture. When you studied groups, you were careful to arrange something tall and something low and wide. In pictures, you will often see trees against the meadow or horizon, a ship against the water-line, or a steeple against roofs.

In the plaid (Figure 2), the effect of vertical lines cutting across horizontal lines produces beauty. Beauty that is obtained by using vertical lines or effects cutting horizontal lines or effects is called opposition. It is another kind of balance.

If in the gingham design (Figure 2) there were too many vertical and horizontal lines, the effect would not be pleasing, because too many little spaces would result. Or, if the square were divided into large spaces, nearly alike, the effect would be monotonous.

The same would be true of the landscape sketch (Figure 3). You would not like a picture in which the trees were all of the same size and were placed at equal distances.

Every design and picture should have large, small and medium spaces so arranged that the whole effect is balanced and harmonious.

Balance of Lines, Measures and Values.



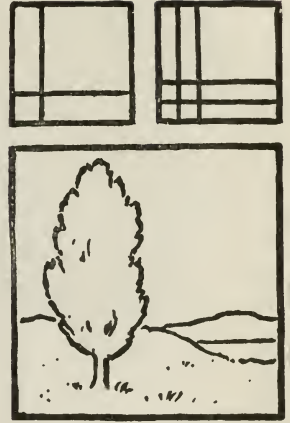
You know at once that this little girl did not live in America. The quaint cap, the folded kerchief and the long, full skirt all tell of a country across the sea. The picture was painted by an artist named Grust, and he is showing us a little child whose home is in Holland. The little girl has been giving her doll a ride in a cart that very likely was made by her big brother. In the picture Dolly appears to be forgotten, for the little girl is very much interested in reaching for some fruit on a high shelf. She is standing on tiptoe, in order to make herself as tall as possible.

Can you think why this picture is shown to you? It

is because the artist, in telling his story, has so plainly employed the vertical and horizontal effect we call opposition. The figure of the child is like the vertical lines in the gingham, or the trees in the landscape. The shelf supplies the horizontal feeling, and the crossing of the two lines or masses breaks the space into a number of large and small measures, which help to make a beautiful whole. Then there is another contrast in the picture. The child's dress, the doll, the jug in the window and the cherries in the basket are dark in value, while the rest of the picture is light. Do you think any picture would be interesting if all the shapes in it were of the same value?

Find examples of opposition in other pictures, in your books or elsewhere.

Still Life Shapes Balanced in Space.



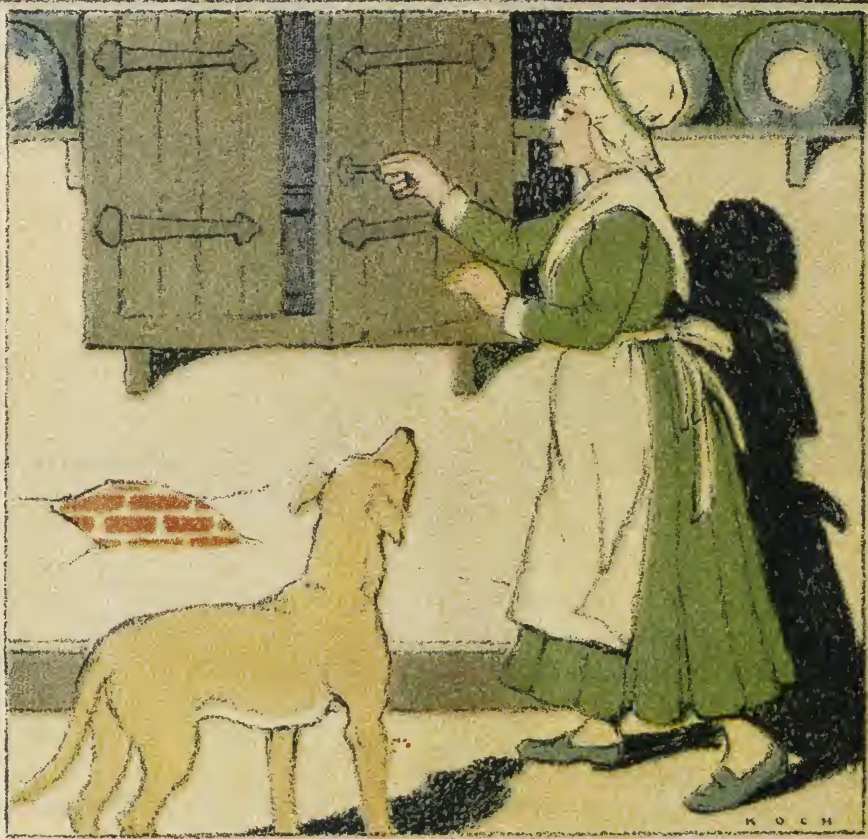
The picture of the bean pot and the beet does not seem to resemble the plaid designs and the landscape sketch on this page. Neither does it look like the picture on page 94. Yet all of them have something in common. They are balanced by the use of horizontal and vertical lines or masses.


The bean pot represents the vertical line, and the beet with its leaves has the effect of the horizontal lines. These two shapes break the space into large and small measures. The bean pot and the background are large spaces, contrasting agreeably with the beet, its leaves and the foreground as smaller spaces.

How many dark masses can you find in the picture? These are in strong contrast to the background. Can you locate on the value scale (page 73) all the values used in this picture?

Let us count the different kinds of balance used in the group. First there is opposition of the vertical and the horizontal shapes. This is one kind of balance. Then there is opposition of large and small measures or spaces. This is another kind of balance. And last, there is opposition of light and dark values. This is a third kind of balance. All of these points were carefully considered in making this sketch.

Arrange a simple group of two objects. Select with your finder the space best adapted to the group. Draw the enclosure and express within it three kinds of balance.



 Old Mother Hubbard
Went to the cupboard,
To get her poor dog a bone;
But when she came there
The cupboard was bare,
And so the poor dog had none.

Pottery.

The potter's art is one of the oldest that we possess. Thousands of years ago the Egyptians and Assyrians made beautiful bowls and vases, and since then the process has changed but little.

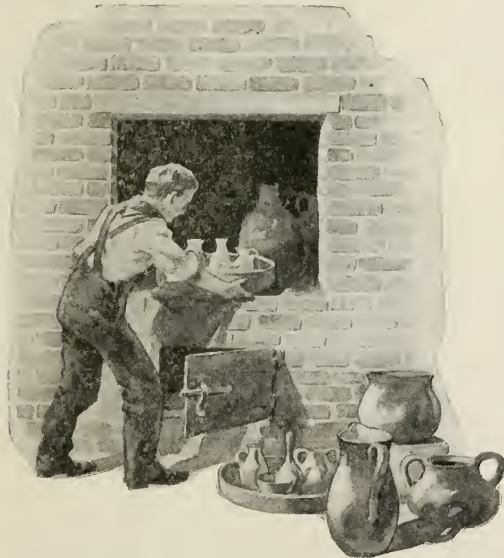
In the upper sketch you see the potter at his table. He places a lump of clay on the flat disc in front of him, and by spinning the fly-wheel with his foot he makes the disc revolve. With his thumbs he makes a depression in the clay which becomes the inside of the vase. Then with one hand on the inside, and the other on the outside, he deftly draws



up the revolving mass into the desired shape.

When the form has been moulded and thoroughly dried, it is sent to the kiln to be fired. The pieces are placed in coarse earthenware vessels called seggars, and these are stacked one upon another in the furnace. The fire is then started, and the objects are brought to a cherry or white heat. In this way the forms are made hard and durable.

Pottery in this state is called biscuit-ware. A colored glaze is now applied to the pieces, and they are again fired to fix the colors, and to



produce a luster or polish. After this the pieces are taken from the furnace, finished.

Problems for Review or for Home Work.

Problem 1. In chart A, page 75, are six pairs of complementary colors. Write the names of these pairs.

Problem 2. Paint or draw with colored crayons any object you have found that shows complementary colors. An apple with its leaves, a sunset sky, a pansy, a feather, may all show complementary colors in full or partial intensity.

Problem 3. Compare the values in the Indian blanket on page 81 with the value scale on page 73. How many values were used in the blanket and what are their names?

Problem 4. Choose a single flower and its growth, such as the buttercup or sweet pea. Draw in outline all the different shapes you can find in its flower, bud and leaf. Choose one of these shapes to repeat in a rhythm or border, using brush and ink.

Problem 5. Fold paper on a vertical axis and cut designs for a rose bowl, a soup bowl, a wash bowl, and a cooking bowl. The shapes must be suitable for the purpose of the bowl.

Problem 6. Fold paper on a vertical axis, and cut a design suitable for a tea-cup. Sketch upon it a rhythm of simple shapes or lines, similar to those shown on page 80. The design for the cup may be cut from tinted paper, and the decoration applied in a darker value of the same color.

Problem 7. Using stiff paper or cardboard make a square box for holding handkerchiefs. Base your pattern on the plan shown on page 89. Make your cover separate from the box, and increase its measurements very slightly so that it will slip easily over the box.

Problem 8. Draw four squares, each four inches on a side. Make four different plaid designs, using two vertical and two horizontal lines in each. Use brush and color, or colored crayons.

10 10 10

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